CERTAIN CORRELATIONS BETWEEN RATINGS BY: (1) INTELLIGENCE TESTS, (2) STANDARDIZED TESTS AND (3) TEACHERS' MARKS.

by

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INTRODUCTION

In presenting this thesis the writer is aware of three tendencies to statistical error. First, in that we are comparing the I. Q. of the pupil, a relative measure, with the ranking of the teacher which is supposedly absolute, the correlation would tend to be lower than if the mental age and teachers' marks were used. For instance the pupil of low mental age as represented by the score of the Otis test might, because of low chronological age, be given an I. Q. out of all proportion to the teachers' mark, thus making the correlation lower than if teachers' marks were correlated with mental age. Suppose that he were given a grade by the Otis test which would indicate a mental age of say, nine. If his chronological age were eight this would make his I. Q. 1.12. If he were classified in a grade where the teachers' mark would place him in the lower group this would tend to make the correlation lower. However in actual school practice this error tends to eliminate itself as the bright child even when classified with older children practically always is classed with the high group by the teacher. Conversely he with the low I. Q. is ranked with the lower group even when his classmates are of much lower chronological age. In this study, forty-seven pupils who had I. Q. below eighty were all ranked in the lower group by the teachers. In our public school system the pupil with the low I. Q. who passes to the next grade passes as one of the lower group. This lack of preparation condemns him to poor work in the next grade when he is still classed low. Thus he rarely reaches the point where he is classed with the upper group.

Second, in dealing with a group of pupils which spreads itself over more than one grade as in this study, if mental age and not I. Q. should be used or any absolute figure which changes with age, there is also possibility of error in that the correlation tends to be too high. This error has been pointed out by Dr. F. J. Kelly in his study of Teachers' Marks where he criticizes the high correlations obtained by Dr. Courtis in his correlations with his arithmetic tests.

Third, the writer is also aware of the redent criticisms of the I. Q. and especially its application to scales other than that of Binet to which it was originally applied. The purpose of this thesis is merely to compare the I. Q. as determined by the Otis scale with the Teachers' marks. If, as is suggested by the critics, the I. Q. or "mental age difference" varies more with children who are older there is chance for a small error in that we have used the seventh and eighth grades as one large group.

W. F. S.

CONTENTS

CHAPTER I.

The Coefficient of Correlation Between the Ratings by the Otis Intelligence Test and Teachers' Marks.

Problem: What is the index of correlation between the ratings by the Otis Intelligence Test and teachers' marks?

Data: During the school year of 1919-20 the Otis Intelligence Test was given to three hundred eighty-one pupils of the intermediate school of Lawrence, Kansas under the direction of Mr. W. D. Armentrout, Principal. The tests were given carefully following the directions as given by the author. The intermediate school of Lawrence includes the seventh and eighth grades of the city schools grouped into four divisions, 7 A, 7 B, 8 A, and 8 B. The subjects given in the eighth grade and seventh grades are as follows: English, Arithmetic, Geography, History, Hygiene, Music, Art, Manual Training, Home Economics, General Science and Physical Education, considerable freedom of elective being allowed. The teachers' marks as given in the Lawrence schools classify the students into five groups. For the purpose of obtaining a positive coefficient in this study the teachers' marks were evaluated as follows: The highest group were given a value of four hundred, the other four groups, three hundred, two hundred, one hundred and zero respectively in order of their ranking. The arithmetical mean of the grades of each student was used for the basis of comparison with the Otis marks. The

teachers' marks used were those for the six weeks period in which the test was given. In the first handling of the data the Otis I. Q.'s also were arranged in five groups using the same method of grouping as was used in the case of the teachers' marks. i.e., the I. Q's of 120 or above were evaluated at four hundred, between 110 and 120 at three hundred, between 90 and 110 at two hundred, between 80 and 90 at one hundred and below 80 at zero. In this arrangement the Pearson method of grouping without ranking was used. In the second handling of the data, using the shorter method as given by Rugg (see data) the actual I. Q.'s of the pupils were used. In the second grouping only three hundred sixty-nine pupils' averages were used owing to a misplacing of some of the data. This however should not affect the result materially as the data lost was not grouped in any way differently from the first grouping.

Results: By the first method a correlation of .65 was obtained with a probable error of -.02 (See data on pages following).

By the second method a correlation of .636 was obtained with a probable error of -.02.

Conclusion: Since most authors, including Rugg, interpret a correlation above .60 as very high and since the probable error is so low there is marked evidence that a high grade given by the teacher is generally accompanied

by a high I. Q. as given by the Otis test for the measurement of intelligence.

VALUE OTIS I.Q.	VALUE TEACHERS' MARKS	X	Y	X^2	Y^2	XY	-XY
400	250	177	15	31329	225	2655	
400	316	177	81	31329	6561	14337	
400	333	177	98	31329	9604	17346	
200	250	- 23	15	529	225		345
000	183	-223	- 52	49729	2704	11596	
400	360	177	125	31329	15625	22125	
400	316	177	81	31329	6561	14337	
400	333	177	98	31329	9604	17346	
300	283	77	48	5929	2304	3696	
400	233	177	- 2	31329	4		354
200	216	- 23	- 19	589	361	437	
400	283	177	48	31329	2304	8496	
400	283	177	48	31329	2304	8496	
100	133	-123	-102	15129	10404	12546	
200	83	- 23	-152	529	23104	3496	
300	300	77	65	5929	4225	5005	
400	300	177	65	31329	4225	11505	
200	266	- 23	31	529	961		683
200	183	- 23	52	529	2704	1196	
200	216	- 23	- 19	529	361	437	
400	184	177	- 51	31329	2601		9027
100	216	-123	- 19	15129	361	2337	
400	300	177	65	31329	4225	11505	
400	200	177	- 35	31329	1225		6195
000	200	-223	- 35	49729	1225	7805	
400	284	177	49	31329	2401	8673	
300	366	77	131	5929	17161	10087	
200	200	- 23	- 35	529	1225	805	
200	200	- 23	- 35	529	1225	805	
200	316	- 23	81	529	6561		1863
400	300	177	65	31329	4225	88505	
400	266	177	31	31329	961	5487	
000	150	-223	- 85	49729	7225	18955	
200	216	- 23	- 19	529	361	437	
400	142	177	- 93	31329	8649		16461
000	142	-223	- 93	49729	8649	20739	
200	257	- 23	22	529	484		506
200	216	- 23	- 19	529	361	437	
400	385	177	150	31329	22500	26550	
400	333	177	98	31329	9604	17346	
000	214	-223	- 21	49729	441	4683	
400	300	177	65	31329	4225	11505	
400	180	177	- 55	31329	3025		9735
200	280	- 23	45	529	2025		1035
400	225	177	- 10	31329	100		1770
400	300	177	65	31329	4225	11505	
200	320	- 23	85	529	7225		1925
300	220	77	- 15	5929	225		1155
400	240	177	5	31329	25	885	
200	280	- 23	45	529	2025		1035
400	260	177	25	31329	625	4425	
200	240	- 23	5	529	25		115
200	225	- 23	- 10	529	100		230
400	240	177	5	31329	25	885	

VALUE OTIS I.Q.	VALUE TEACHERS' MARKS	X	Y	X^2	Y^2	XY	-XY
400	200	177	- 35	31329	1225		6195
100	260	-123	25	15129	625		3075
000	225	-223	- 10	49729	100	2230	
100	216	-123	- 19	15129	361	2337	
100	200	-123	- 35	15129	1225	4305	
100	160	-123	- 75	15129	5625	9225	
000	150	-223	- 85	49729	7225	7805	
400	233	177	- 2	31329	4		354
000	150	-223	- 85	49729	7225	18955	
200	300	- 23	65	529	4225		1495
100	150	-123	- 85	15129	7225	10455	
000	133	-223	-102	49729	10404	22746	
000	266	-223	31	49729	961		6913
000	133	-223	-102	49729	10404	22746	
100	116	-123	-119	15129	14161	14637	
000	116	-223	-119	49729	14161	26537	
000	83	-223	-152	49729	23104	33896	
100	233	-123	- 2	15129	4	246	
000	216	-223	- 19	49729	361	4237	
000	200	-223	- 35	49729	1225	7805	
000	300	-223	65	49729	4225		14495
000	150	-223	- 85	49729	7225	18955	
100	266	-123	31	15129	961		3813
000	233	-223	- 2	49729	4	446	
100	100	-123	-135	15129	18225	16605	
200	216	- 23	- 19	529	361	437	
100	233	-123	- 2	15129	4	246	
200	250	- 23	15	529	225	345	
300	300	77	65	5929	4225	5005	
300	266	77	31	5929	961	2387	
400	350	177	115	31329	13225	20355	
200	233	- 23	- 2	529	4	46	
000	216	-223	- 19	49729	361	4237	
400	250	177	15	31329	225	2655	
000	120	-223	-115	49729	13225	25645	
200	366	- 23	131	529	17161		3013
200	150	- 23	- 85	529	7225	1925	
100	200	-123	- 35	15129	1225	4305	
100	150	-123	- 85	15129	7225	10455	
300	271	77	36	5929	1296	2772	
200	300	- 23	65	529	4225		1495
000	183	-223	- 52	49729	2704	11596	
200	200	- 23	- 35	529	1225	805	
000	200	-223	- 35	49729	1225	7805	
000	216	-223	- 19	49729	361	4237	
000	116	-223	-119	49729	14161	26537	
400	220	177	- 15	31329	225		2655
000	150	-223	- 85	49729	7225	18955	
300	230	77	- 5	5929	25		385
400	233	177	- 2	31329	4		354
300	266	77	31	5929	961	2387	

VALUE OTIS I.Q.	VALUE TEACHERS' MARKS	X	Y	X^2	Y^2	XY	-XY
400	300	177	65	31329	4225	11505	
000	83	-223	-152	49729	23104	33896	
200	116	- 23	-119	529	14161	2737	
300	150	77	- 85	5929	7225		6545
400	350	177	115	31329	13225	20355	
000	116	-223	-119	49729	14161	26537	
100	116	-123	-119	15129	14161	14637	
200	200	- 23	- 35	529	1225	805	
200	116	- 23	-119	529	14161	2737	
100	183	-123	- 52	15129	2704	6396	
000	225	-223	- 10	49729	100	2230	
000	180	-223	- 55	49729	3025	12265	
000	200	-223	- 35	49729	1225	7805	
200	180	-123	- 55	15129	3025	6765	
400	220	177	- 15	31329	225		2655
100	250	-123	15	15129	225		1845
200	340	- 23	105	529	11025		2415
200	200	- 23	- 35	529	1225	805	
100	160	-123	- 75	15129	5625	9225	
100	200	-123	- 35	15129	1225	4305	
000	180	-223	- 55	49729	3025	12265	
200	360	- 23	125	529	15625		2875
400	280	- 23	40	529	1600		920
200	320	- 23	75	529	5625		1725
200	225	- 23	- 10	529	100	230	
200	260	- 23	25	529	625		575
400	240	177	5	31329	25	885	
400	400	177	165	31329	27225	29205	
300	280	77	45	5929	2025	3465	
400	225	177	- 10	31329	100		1770
200	116	- 23	-119	529	14161	2737	
100	280	-123	45	15129	2025		6535
400	225	177	- 10	31329	100		1770
400	260	177	25	31329	625	4425	
200	300	- 23	65	529	4225		1495
200	400	- 23	165	529	27225		3795
200	250	- 23	15	529	225		345
400	360	177	125	31329	15625	22125	
400	325	177	90	31329	8100	15930	
400	325	177	90	31329	8100	15930	
400	300	177	65	31329	4225	11505	
400	360	177	125	31329	15625	22125	
400	380	177	145	31329	21025	25665	
200	320	- 23	85	529	7225		1925
300	320	77	85	5929	7225	6545	
400	380	177	145	31329	21025	25665	
400	380	177	145	31329	21025	25665	
400	360	177	125	31329	15625	22125	
300	320	77	85	5929	7225	6545	
400	320	177	85	31329	7225	15045	
400	320	177	85	31329	7225	15045	

VALUE OTIS I.Q.	VALUE TEACHERS' MARKS	X	Y	X^2	Y^2	XY	-XY
200	200	- 23	- 35	529	1225	805	
100	220	-123	- 15	15129	225	1845	
200	200	- 23	- 35	529	1225	805	
000	100	-223	-135	49729	18225	30105	
200	220	- 23	- 15	529	225	345	
100	280	-123	45	15129	2025	6535	
100	240	-123	5	15129	25	615	
000	175	-223	- 60	49729	3600	13380	
000	175	-223	- 60	49729	3600	13380	
200	240	- 23	5	529	25		115
100	200	-123	- 35	15129	1225	4305	
300	266	77	31	5929	961	2387	
200	300	- 23	65	529	4225		1495
200	250	- 23	15	529	225		345
200	216	-23	- 19	529	361	437	
200	366	- 23	131	529	17161		3013
400	283	177	48	31329	2304	8496	
200	220	- 23	- 15	529	225	345	
100	216	-123	- 19	15129	361	2337	
100	200	-123	- 35	15129	1225	4305	
100	216	-123	- 19	15129	361	2337	
000	000	-223	-235	49729	55225	52405	
400	400	177	165	31329	27225	29205	
000	000	-223	-235	49729	55225	52405	
300	300	77	65	5929	4225	5005	
200	216	- 23	- 19	529	361	437	
300	250	- 77	15	5929	225	1155	
400	200	177	- 35	31329	1225		6195
200	166	- 23	- 69	529	4761	1587	
400	400	177	165	31329	27225	29205	
200	330	- 23	95	529	9025		2185
200	233	- 23	- 2	529	4	46	
000	100	-223	-135	49729	18225	30105	
200	233	- 23	- 2	529	4	46	
200	200	- 23	- 35	529	1225	805	
400	283	177	48	31329	2304	8496	
000	120	-223	-115	49729	13225	25645	
400	250	177	15	31329	225	2665	
400	350	177	115	31329	13225	20355	
400	350	-177	115	31329	13225	20355	
100	200	-123	- 35	15129	1225	4305	
200	316	- 23	81	529	6561		1863
200	150	- 23	- 85	529	7225	1925	
000	133	-223	-102	49729	10404	22746	
200	200	- 23	- 35	529	1225	805	
100	133	-123	-102	15129	10404	12546	
100	266	-123	31	15129	961		3813
100	133	123	-102	15129	10404	12546	
300	283	77	48	5929	2304	3696	

VALUE OTIS I.Q.	VALUE TEACHERS' MARKS	X	Y	X^2	Y^2	XY	-XY
000	000	-223	-235	49729	55225	52405	
400	316	177	81	31329	6561	14337	
400	183	177	- 52	31329	2704		9204
200	283	- 23	48	529	2304		1104
400	283	177	48	31329	2304	8496	
300	233	77	- 2	5929	4		154
200	140	- 23	- 95	529	9025	2185	
400	250	177	15	31329	225	2655	
400	300	177	65	31329	4225	11505	
400	333	177	98	31329	9604	17346	
400	300	177	65	31329	4225	11505	
300	266	77	31	5929	961	2387	
200	133	- 23	-102	529	10404	2346	
400	250	177	15	31329	225	2655	
300	216	77	- 19	5929	361		1463
200	200	- 23	- 35	529	1225	805	
400	316	177	81	31329	6561	14337	
200	233	- 23	- 2	529	4	46	
300	266	77	31	5929	961	2387	
200	220	- 23	± 15	529	225	345	
100	266	-123	31	15129	961		3813
300	300	77	65	5929	4225	5005	
200	233	- 23	- 2	529	4	46	
400	266	177	31	31329	961	5487	
400	250	177	15	31329	225	2655	
300	266	77	31	5929	961	2387	
100	183	-123	- 52	15129	2704	6396	
400	250	177	15	31329	225	2655	
400	316	177	81	31329	6561	14337	
300	300	77	65	5929	4225	5005	
400	300	177	65	31329	4225	11505	
200	283	- 23	48	529	2304		1104
000	183	-223	- 52	49729	2704	11596	
200	300	- 23	65	529	4225		1495
200	200	- 23	- 35	529	1225	805	
400	316	177	81	31329	6561	14337	
400	300	177	65	31329	4225	11505	
400	316	177	81	31329	6561	14337	
400	250	177	15	31329	225	2655	
300	283	77	48	5929	2304	3696	
100	183	-123	- 52	15129	2704	6396	
400	266	177	31	31329	961	5487	
400	316	177	81	31329	6561	14337	
100	166	-123	- 69	15129	4761	8487	
300	283	77	48	5929	2304	3696	
200	233	- 23	- 2	529	4	46	
100	216	-123	- 19	15129	361	2337	
200	300	- 23	65	529	4225		1495
000	150	-223	- 85	49729	7225	18955	

VALUE OTIS I.Q.	VALUE TEACHERS' MARKS	X	Y	X^2	Y^2	XY	-XY
100	133	-123	-102	15129	10404	12546	
100	150	-123	- 85	15129	7225	10455	
200	400	- 23	165	529	27225		3795
100	183	-123	- 52	15129	2704	6396	
200	216	- 23	- 19	529	361	437	
400	266	177	31	31329	961	5487	
100	100	-123	-135	15129	18225	16605	
000	183	-223	- 52	49729	2704	11596	
200	233	- 23	- 2	529	4	46	
100	233	-123	- 2	15129	4	246	
400	266	177	31	31329	961	5487	
100	150	-123	- 85	15129	7225	10455	
400	233	177	- 2	31329	4		354
400	200	177	- 35	31329	1225		6195
300	316	77	81	5929	6561	6237	
200	333	- 23	98	529	9604		2254
100	200	-123	- 35	15129	1225	4305	
400	300	177	65	31329	4225	11505	
400	333	177	98	31329	9604	17346	
200	300	- 23	65	529	4225		1495
400	350	177	115	31329	13225	20355	
400	266	177	31	31329	961	5487	
100	233	-123	- 2	15129	4	246	
000	000	-223	-235	49729	55225	52405	
400	283	177	48	31329	2304	8496	
300	166	77	- 69	5929	4761		5313
400	316	177	81	31329	6561	14337	
200	250	- 23	15	529	225		345
200	316	- 23	81	529	6561		1683
200	150	- 23	- 85	529	7225	1925	
400	266	177	31	31329	961	5487	
100	166	-123	- 69	15129	4761	8487	
000	180	-223	- 55	49729	3025	12265	
100	133	-123	-102	15129	10404	12546	
400	300	177	65	31329	4225	11505	
200	280	- 23	45	529	2025		1035
200	260	- 23	25	529	625		575
300	320	77	85	5929	7225	6545	
300	340	77	105	5929	11025		115
200	240	- 23	5	529	25	8085	
000	50	-223	-185	49729	34225	41255	
200	220	- 23	- 15	529	225	345	
100	140	-123	- 95	15129	9025	11685	
300	340	77	105	5929	11025	8085	
200	210	- 23	- 25	529	625	575	
400	280	177	45	31329	2025	7965	
300	240	77	5	5929	25	385	
400	320	177	85	31329	7225	15045	
300	240	77	5	5929	25	385	
200	180	- 23	- 55	529	3025	1265	
400	300	177	65	31329	4225	11505	
100	220	-123	- 15	15129	225	1845	
000	200	-223	- 35	49729	1225	7805	

VALUE OTIS I.Q.	VALUE TEACHERS' MARKS	X	Y	X^2	Y^2	XY	-XY
000	220	-223	- 15	49729	225	3345	
200	180	- 23	- 55	529	3025	1265	
200	160	- 23	- 75	529	5625	1725	
100	180	-123	- 55	15129	3025	6765	
400	340	177	105	31329	11025	18585	
300	400	77	165	5929	27225	12705	
000	180	-223	- 55	49729	3025	12265	
400	400	177	165	31329	27225	46905	
200	240	- 23	5	529	25		115
100	160	-123	- 75	15129	5625	9225	
300	260	77	25	5929	625	1925	
100	180	-123	- 55	15129	3025	6765	
000	000	-223	-235	49729	55225	52405	
100	160	-123	- 75	15129	5625	9225	
000	100	-223	-135	49729	18225	30105	
400	240	177	5	31329	25	885	
300	260	77	25	5929	625	1925	
300	180	77	- 55	5929	3025		4235
400	300	177	65	31329	4225	11905	
400	400	177	165	31329	27225	29205	
400	380	177	145	31329	21025	25665	
400	400	177	165	31329	27225	29205	
400	400	177	165	31329	27225	29205	
300	200	77	- 35	5929	1225		2695
100	220	-123	- 15	15129	225	1845	
000	160	-223	- 75	49729	5625	16725	
400	280	177	45	31329	2025	7965	
400	280	177	45	31329	2025	7965	
200	200	- 23	- 35	529	1225	805	
000	180	-223	- 55	49729	3025	12265	
200	80	- 23	-155	529	24025	3565	
300	320	77	85	5929	7225	6545	
000	180	-223	- 55	49729	3025	12265	
200	300	- 23	65	529	4225		1495
400	200	177	- 35	31329	1225		6195
100	180	-123	- 55	15129	3025	6765	
400	240	177	5	31329	25	885	
400	220	177	- 15	31329	225		2655
400	220	177	- 15	31329	225		2655
300	360	77	-125	5929	15625	9625	
100	160	-123	75	15129	5625	9225	
400	300	177	65	31329	4225	11505	
100	160	-123	- 75	15129	5625	9225	
300	160	77	- 75	5929	5625		5775
200	240	- 23	5	529	25		115
300	340	77	105	5929	11025	8085	
100	50	-123	-185	15129	34225	22755	
100	100	-123	-135	15129	18225	16605	
000	100	-223	-135	49729	18225	30105	
100	140	-123	- 95	15129	9025	11685	
000	120	-223	-115	49729	13225	25645	

VALUE OTIS I.Q.	VALUE TEACHERS' MARKS	X	Y	X^2	Y^2	XY	-XY
300	220	77	- 15	5929	225		1155
200	200	- 23	- 35	529	1225	805	
400	340	177	105	31329	11025	18585	
100	000	-123	-235	15129	55225	28905	
200	120	- 23	-115	529	13225	2645	
200	240	- 23	5	529	25		115
100	260	-123	25	15129	625		3075
000	80	-223	-155	49729	24025	34565	
200	320	- 23	85	529	7225		1925
200	280	- 23	45	529	2025		1035
200	160	- 23	- 75	529	5625		1725
000	140	-223	- 95	49729	9025	21185	
200	300	- 23	65	529	4225		1495
000	180	-223	- 55	49729	3025	12265	
300	360	77	125	5929	15625	9625	
200	000	- 23	-235	529	55225	5405	
100	340	-123	105	15129	11025		12915
300	280	77	45	5929	2025	3465	
200	100	- 23	-135	529	18225	3105	
200	280	- 23	45	529	2025		1035
300	320	77	85	5929	7225	6545	
400	400	177	165	31329	27225	29205	
85100	89699			7690820	2516167	3130027	246291
						- 246291	
						2883736	

N= 381

$$381\overline{)851.00} = 2.23 \qquad 381\overline{)896.99} = 2.35$$

762 / 890 / 762 / 1280 / 1143

762 / 1349 / 1143 / 2069 / 1905

$$r = \frac{\Sigma x \cdot y}{\sqrt{\Sigma x^2 \cdot \Sigma y^2}} = \frac{288.3736}{\sqrt{769.082 \times 251.6167}} =$$

$$\frac{288.3736}{439.8} = .65$$

$$P.E. = \pm .6749 \frac{1 - r^2}{\sqrt{N}} = \pm .67449 \frac{1 - .4225}{19} = \pm .02$$

Correlation Teachers Marks with Otis Scores

Reduced to I.Q.'s

	0-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	64-70	71-77	78-84	85-91	92-99	100-105	106-112	113-119	120-126	127-133	134-140	141-147	148-154	155-161	162-168	fy	d	fd	fd	$\Sigma x'y'$
400-380															1														
379-360															1	1													
359-340													-12			1													
339-320															30		4	1											
319-300										-80	1		-24		3		3	2	6										
299-280													-9	-12	-3	1	2	1	3										
279-260									-12	1			-18	-20	-2	2	5	1	1										
259-240													-6	-2	-2	2	1	2	5										
239-220								1				2	2	6	6	4	5	1	4	1	6				37	0		778		
219-200					1	9		18	5	16	16	10	10				-4	-6	-3	-16	-10	-12			50	-1	-50	50	50
199-180						14		30	40	36	8	6					-2		-12		-10				24	-2	-48	96	110
179-160					1	24	21			24	36	24	6				-6	-6							19	-3	-57	171	123
159-140								24	40	22	12	40	6								-24				16	-4	-64	256	140
139-120						40		30		60	60	30									-25				14	-5	-70	350	195
119-100								36	90	72	90	24	6				-6								17	-6	-102	672	312
99-80																									5	-7	-35	245	154
79-60																										-8			
59-40										45		27													2	-9	-18	162	72
39-20																										-10			
19-0	154							68			55	44	33		22										6	-11	-66	726	396
	1							1			1	1	1		1														

fx	1	1				1	3	3	7	12	24	35	40	35	32	33	27	23	27	27	5	5	1	369	-520	63463543			
d	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9					
fd	-14	-13				-9	-24	-21	-42	-60	-96	-105	-80	-35	0	32	46	51	92	135	162	35	40	9	-5171	$\frac{778}{258}$	602-501=101		.02	
fd^2	196	169				81	192	147	252	300	384	315	160	35	0	32	92	153	368	675	972	245	320	81						

$c_y = \frac{258}{369} = .69$

$c_x = \frac{101}{369} = .27$

$c_y^2 = .476$

$c_x^2 = .729$

$\sigma_y^2 = \frac{6346}{369} = 17.1$

$\sigma_x^2 = \frac{5171}{369} = 14$

$\sigma_y^2 = 17.1 - .476 = 16.624$

$\sigma_x^2 = 14 - .729 = 13.271$

$\sigma_y = 4.07$

$\sigma_x = 3.64$

$$r = \frac{\frac{x'y'}{N} - c_x c_y}{\sigma_x \sigma_y} = \frac{3}{4}$$

$\frac{3543}{369} - .69 X .27$

$= 3.64 X 4.07$

$\approx .636$

$PE = \frac{\pm .6745(1-r^2)}{\sqrt{N}}$

$\frac{.6745(1-.636^2)}{19.2} =$

$r = .636$ $PE = .02$

CHAPTER II.

THE INDEX OF CORRELATION BETWEEN RATE AND COMPREHENSION IN SILENT READING.

PROBLEM. What is the correlation between rate and comprehension in silent reading?

DATA. The Monroe Standardized Silent Reading Test was given to grades four to eight in the Alma schools and also to seventy-four of the high school pupils. The test was given in the usual manner following the directions closely.

Because of the small number of pupils in the grades, Spearman's method of rank differences was used and was computed from the table. The results were as follows: (See following pages for actual data and computations.)

GRADE	P	P.E.	r
Eighth	.90	.029	.82
Seventh	.78	.09	.79
Sixth	.25	.16	.26
Fifth	.93	.02	.94
Fourth	.87	.03	.88
			5)3.69
			.736

The arithmetic mean of the series is. 736

In the high school for the seventy four cases the index of correlation by Spearman's formula is .625, after applying Pearson's correction it becomes .64.

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \Sigma y^2}}$$

By the Pearson Method
The index of correlation is .68 with a probable error of only .04.

CONCLUSION. Hence there is marked evidence that a high rate of speed in reading is accompanied by a high degree of comprehension of matter read.

ALMA GRADE SCHOOL
INDEX OF CORRELATION
RATE AND COMPREHENSION--SILENT READING--MONROE

Eighth Grade

Rank Rate	Rank Comprehension	D	D^2
1	2	1	1
5	12.5	7.5	56.25
5	5.5	.5	.25
5	12.5	7.5	56.25
5	5.5	.5	.25
5	4	1.	1.
5	3	2.	4.
5	1	4.	16.
10	14	4.	16.
10	9.5	.5	.25
10	9.5	.5	.25
12.5	7	5.5	30.25
12.5	8	4.5	20.25
14.5	16	1.5	2.25
14.5	11	3.5	12.25
17.5	19.5	2.5	4.
17.5	19.5	2.	4.
17.5	17	.5	.25
17.5	15	2.5	6.25
20	18	2	4.
			235.00

$$p = 1 - \frac{6 \times 235}{20\ (400-1)} = .81$$

$$P.E. = \pm .6745\ \frac{1 - .81^2}{4.4} = \pm .09$$

From table r = .823

ALMA GRADE SCHOOL
INDEX OF CORRELATION
RATE AND COMPREHENSION--SILENT READING--MONROE

Seventh Grade

Rank Rate	Rank Comprehension	D	D^2
1	7	6	36
5	12	7	49
5	1.5	4.5	20.25
5	1.5	4.5	20.25
5	5	0.	0.
5	8.5	3.5	12.25
5	3.5	1.5	2.25
5	3.5	1.5	2.25
9	8.5	.5	.25
12	16	4.	16
12	16	4.	16
12	10	2.	4
12	6	6.	36
12	19	7.	49
15.5	13	3.5	12.25
15.5	16	.5	.25
17	14	3.	9
19	11	8.	64.
19	18	1	1
19	20	1	1
21	21	0	0
			351.

$$p = 1 - \frac{6 \times 351}{21\,(441-1)} = .78$$

$$P.E. = \pm .6745\ \frac{1 - .78^2}{4.5} = \pm .09$$

From table $r = .794$

ALMA GRADE SCHOOL
INDEX OF CORRELATION
RATE AND COMPREHENSION--SILENT READING--MONROE.

Sixth Grade

Rank Rate	Rank Comprehension	D	D^2
8.5	1	7.5	66.25
1	2	1	1
4.5	3	1.5	2.25
13.5	4	9.5	90.25
4.5	5	.5	.25
8.5	6	2.5	6.25
2	7	5	25
11.5	8	3.5	12.25
4.5	9	4.5	20.25
4.5	10	5.5	30.25
8.5	11	2.5	6.25
8.5	12	3.5	12.25
13.5	13	.5	.25
11.5	14	2.5	6.25
15	15	0	0
			279.

$$\rho = \frac{1 - 279}{15\,(225 - 1)} = .25$$

$$\text{P. E.} = .6745\ \frac{1 - .25^2}{3.8} = .16$$

$$r = .261$$

ALMA GRADE SCHOOL
INDEX OF CORRELATION
RATE AND COMPREHENSION--SILENT READING--MONROE

Fifth Grade

Rank Rate	Rank Comprehension	D	D^2
1	1	0	0
2	2	0	0
3	3		
4	4		
8	5	3	9
5	6	1	1
6.5	7	.5	.25
6.5	8	1.5	2.25
12	9	3	9
12	10	2	4
12	11	1	1
12	12	0	
12	13	1	1
12	14.5	2.5	6.25
12	14.5	2.5	6.25
			40.

$$p = 1 - \frac{6 \times 40}{15\ (225 - 1)} = .93$$

$$P.E. = \pm .6745\ \frac{1 - .93^2}{3.8} = \pm .02$$

$$r = .935 \text{ or } .94$$

ALMA GRADE SCHOOL
INDEX OF CORRELATION
RATE AND COMPREHENSION-SILENT READING--MONROE

Fourth Grade

Comprehension	Rate	D	D^2
1	1	0	0
3	3.5	.5	.25
3	3.5	.5	.25
3	3.5	.5	.25
6.5	3.5	3	9
6.5	5.5	1	1
11	5.5	5.5	30.25
5	9.5	4.5	20.25
8	9.5	1.5	2.25
11	9.5	1.5	2.25
14	12	4.5	20.25
14	15	2	4
9	15	6	36
11	15	4	16
14	15	1	1
16	15	1	1
17	16.5	2	4
18	16.5	1.5	2.25
19		2.5	6.25
			156.50

$$p = 1 - \frac{6 \times 156.5}{19\ (361 - 1)} = .87$$

$$r = .879$$

$$P.E. = \pm .6745\ \frac{1 - .86^2}{4.3} = \pm .03$$

ALMA HIGH SCHOOL
INDEX OF CORRELATION
RATE AND COMPREHENSION-SILENT READING--MONROE

Rate	Rank	Comprehension	Rank	D	D^2
38	2	7.6	3	1	1
38	2	11.1	9	7	49
38	2	16	16.5	14.5	210.25
55	8.5	6.3	2	6.5	42.25
55	8.5	7.7	4	4.5	20.25
55	8.5	11.1	9	.5	.25
55	8.5	16.1	18	9.5	90.25
55	8.5	17.5	23	14.5	210.25
55	8.5	21	33	24.5	600.25
55	8.5	21	33	24.5	600.25
55	8.5	21.1	35	26.5	702.25
68	14	2.8	1	13	169
68	14	14.7	14	0	0
68	14	15.5	15	1	1
68	14	19.7	2 8	14	196
68	14	21.	33	19	361
77	21.5	11	9	11.5	132.24
77	21.5	16	16.5	5	25
77	21.5	16.1	18.5	3	9
77	21.5	16.9	20	1.5	2.25
77	21.5	23.1	39	17.5	306.25
77	21.5	24	41.5	20	400
77	21.5	25.6	45	22.5	506.25
77	21.5	26.9	48	27.5	756.25
77	21.5	31.3	56	24.5	1190.25
77	21.5	32.3	58	36.5	1332.25
86	40	8.5	5.5	34.5	1190.25
86	40	8.5	5.5	34.5	1190.25
86	40	8.7	7	32	1089
86	40	12	12	28	784
86	40	13.7	13	24	729
86	40	17	21	19	361
86	40	17.5	23	17	289
86	40	17.5	23	17	289
86	40	17.8	25.5	14.5	210.25
86	40	17.9	27	13	169
86	40	20.4	31	9	81
86	40	21.8	36	4	16
86	40	23.9	40	0	0
86	40	24.	41.5	1 .5	169.
86	40	24.1	43.5	3.5	81
86	40	26.6	46.5	6.5	12.25
86	40	26.6	46.5	6.5	42.25
86	40	27.4	49	9	81
86	40	27.6	50.5	10.5	110.25
86	40	27.6	50.5	10.5	110.25
86	40	27.7	52	12	144
86	40	29.1	55	15	225
86	40	32.2	57	17	289
86	40	32.6	59	19	361
86	40	38.2	65	25	625
86	40	38.2	65	25	625
86	40	38.2	65	25	625

ALMA HIGH SCHOOL

INDEX OF CORRELATION

RATE AND COMPREHENSION--SILENT READING--MONROE

RATE	RANK	COMPREHENSION	RANK	D	D^2
109	59.	11.3	11	48	2304
109	59.	17.8	25.5	33.5	1112.25
109	59.	20.1	29	30	900.
109	59.	20.3	30	29	841
109	59.	22	37	22	484
109	59.	24.1	43.5	15.5	240.25
109	59.	28.5	54	5	25
109	59.	33.5	60	1	1
109	59.	34.2	61	2	4
109	59.	34.3	62	3	9
109	59.	38.1	63	4	16
109	59.	39.2	67	8	64
125	65.5	44.8	69	2.5	6.25
125	66.5	51.5	70	3.5	5.25
137	69	22.7	38	31	961
137	69	39.9	69	0	0
137	69	53.6	72	3	9
151	72.5	28.4	53	19.5	380.25
151	72.5	53.3	71	1.5	2.25
151	72.5	53.8	73	.5	.25
151	72.5	72.1	74	1.5	2.25
					24972.25

$$p = 1 - \frac{6 \times 24972.25}{74\ (5476 - 1)} = .64$$

$$\text{P. E.} = \pm .6745\ \frac{1-.64^2}{8.6} = \pm .045$$

From table r = .657

ALMA HIGH SCHOOL
INDEX OF CORRELATION
RATE AND COMPREHENSION--SILENT READING--MONROE
PEARSON'S METHOD

Rate%	Comprehension %	x	y	x^2	y^2	xy
25.20	9.80	-33.50	-21.80	1122.20	475.25	730.30
25.20	14.30	-33.50	-17.30	1122.20	299.29	579.55
25.20	20.60	-33.50	-11	1122.20	121	368.50
36.40	8.20	-22.30	-23.40	497.29	547.56	521.82
36.40	10	-22.30	-21.60	497.29	466.56	481.68
36.40	14.30	-22.30	-17.30	497.29	299.29	385.79
36.40	20.70	-22.30	-10.90	497.29	118.81	243.07
36.40	22.50	-22.30	- 9.10	497.29	82.81	202.93
36.40	27.10	-22.30	- 4.50	497.29	20.25	100.35
36.40	27.10	-22.30	- 4.50	497.29	20.25	100.35
36.40	27.20	-22.30	- 4.40	497.29	19.36	98.12
45	4	-13.70	-27.60	187.69	761.76	378.12
45	18.90	-13.70	-12.70	187.69	161.29	173.99
45	20	-13.70	-11.60	187.69	134.56	158.92
45	25.30	-13.70	- 6.30	187.69	39.69	86.31
45	27.10	-13.70	- 4.50	187.69	20.25	61.65
51	14.30	- 7.70	-17.30	59.29	299.29	133.21
51	20.50	- 7.70	-11.	59.29	121	84.70
51	20.70	- 7.70	-10.90	59.29	118.81	83.93
51	21.70	- 7.70	- 9.90	59.29	98.01	76.23
51	29.70	- 7.70	- 1.90	59.29	3.61	14.63
51	30.80	- 7.70	- .80	59.29	.64	6.16
51	32.90	- 7.70	1.30	59.29	1.69	-10.01
51	33.30	- 7.70	1.70	59.29	2.89	-13.09
51	40.20	- 7.70	8.60	59.29	73.96	-66.22
51	41.50	- 7.70	9.90	59.29	98.01	-76.23
57	10.90	- 1.70	-20.70	2.89	428.49	35.19
57	10.90	- 1.70	-20.70	2.89	428.49	35.19
57	10.90	- 1.70	-20.70	2.89	428.49	35.19
57	15.40	- 1.70	-16.20	2.89	262.44	27.54
57	17.60	- 1.70	-14.00	2.89	196.00	23.80
57	21.70	- 1.70	- 9.90	2.89	98.01	16.83
57	22.50	- 1.70	- 9.10	2.89	82.81	15.47
57	22.50	- 1.70	- 9.10	2.89	82.81	15.47
57	23	- 1.70	- 8.60	2.89	73.96	14.62
57	23	- 1.70	- 8.60	2.89	73.96	14.62
57	26.20	- 1.70	- 5.40	2.89	29.16	9.18
57	28.20	- 1.70	- 3.40	2.89	11.56	5.78
57	30.90	- 1.70	- .80	2.89	.64	1.36
57	30.90	- 1.70	.70	2.89	.49	1.19
57	31	- 1.70	- .60	2.89	.36	1.02
57	34.20	- 1.70	2.60	2.89	.76	- 4.42
57	34.20	- 1.70	2.60	2.89	.76	- 4.42
57	35.20	- 1.70	3.60	2.89	12.96	- 6.12
57	35.20	- 1.70	3.60	2.89	12.96	- 6.12
57	35.20	- 1.70	3.60	2.89	12.96	- 6.12
57	35.20	- 1.70	3.60	2.89	12.96	- 6.12
57	37.40	- 1.70	5.80	2.89	33.64	- 9.86
57	41.50	- 1.70	9.90	2.89	106.09	-16.83
57	41.90	- 1.70	10.30	2.89	306.25	-17.51
57	49.10	- 1.70	17.50	2.89	306.25	-29.75

ALMA HIGH SCHOOL
INDEX OF CORRELATION
RATE AND COMPREHENSION--SILENT READING--MONROE

Rate %	Comprehension	x	y	x^2	y^2	xy
57.00	49.10	-1.70	17.50	2.89	306.25	- 29.75
57.00	49.10	-1.70	17.50	2.89	306.25	- 29.75
72.20	14.50	13.50	-17.10	182.25	292.41	- 230.85
72.20	22.50	13.50	- 9.10	182.25	82.21	- 122.85
72.20	25.90	13.50	- 5.70	182.25	32.49	- 76.95
72.20	26.20	13.50	- 5.40	182.25	29.16	- 72.90
72.20	28.40	13.50	- 3.20	182.25	10.24	- 43.20
72.20	31.00	13.50	- .60	182.25	.36	- 8.10
72.20	36.60	13.50	5.00	182.25	25	67.50
72.20	43.10	13.50	11.50	182.25	132.25	155.25
72.20	44	13.50	12.40	182.25	153.76	167.40
72.20	44	13.50	12.40	182.25	153.76	167.40
72.20	49	13.50	17.40	182.25	302.76	234.90
72.20	50.40	13.50	18.80	182.25	353.44	253.80
82.80	57.80	24.10	26.20	580.81	686.44	631.42
82.80	66.30	24.10	-34.70	580.81	1204.09	-836.24
90.70	29.20	32.00	- 2.40	1024.	5.76	- 76.80
90.70	51.40	32.00	19.80	1024.	392.04	633.60
90.70	68.90	32.00	37.30	1705.69	1391.29	1193.60
100.	36.50	41.30	4.90	1705.69	24.01	202.37
100.	68.60	41.30	37.00	1705.69	1369.	1528.1
100.	69.20	41.30	37.60	1705.69	1413.76	1552.88
100.	92.80	41.30	61.20	1705.69	3745.44	2527.56
A.M. 58.7	A.M. 31.6			22879.37	19821.92	14510.84

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \Sigma y^2}} = \frac{14510.84}{\sqrt{22879.37 \times 19821.92}}$$

$$= .68$$

$$P.E. = \pm .6745 \frac{1 - .68^2}{8.602} = \pm .04$$

CHAPTER III.

PROBLEM I.

PROBLEM. What is the correlation between rate and accuracy in arithmetic?

DATA. The Monroe Standardized Reasoning Tests in Arithmetic were given according to directions in grades four to six in the Alma grade schools.

Using Spearman's method of rank differences the results were as follows:

GRADE	ρ	r	P.E.
Four	.72	.74	±.07
Five	.74	.76	±.08
Six	.55	.57	±.12

3)2.07
.69

CONCLUSION. Although the number of cases (18, 14, & 15) is small yet the high arithmetic mean of the indices of correlations and the comparatively low probable errors of the several computations would seem to indicate that speed in computation is accompanied to a large extent by accuracy in result.

ALMA GRADE SCHOOL
INDEX OF CORRELATION
STANDARDIZED REASONING TEST IN ARITHMETIC
MONROE

Fifth Grade

PUPIL	RATE	PRINCIPLE	ACCURACY	R.RANK	P.RANK	A.RANK
A	20	20	14	7	10	10
B	25	30	15	4.5	4	8
C	23	26	16	6	6.5	6
D	11	22	15	13	9	8
E	36	36	24	1	1	1
F	15	10	10	10	13	13
G	14	26	17	11	6.5	5
H	17	17	12	8.5	11.5	11.5
I	17	17	12	8.5	11.5	11.5
J	34	34	19	2	2	3
K	25	28	18	4.5	5	4
L	4	4	2	14	14	14
M	29	32	21	3	3	2
N	13	25	15	12	8	8

Sixth Grade

A	7	15	14	12.5	9.5	8
B	19	22	21	1	2	1
C	14	20	16	3	4.5	3.5
D	12	18	15	8	6.5	5.5
E	7	10	9	12.5	13	12
F	13	18	16	5.5	5.5	3.5
G	6	13	14	14.	11.5	8
H	8	9	8	11	14	13.5
I	11	22	20	10	2	2
J	13	22	15	5.5	2	5.5
K	14	17	13	3	8	10
L	12	15	12	8	9.5	11
M	14	20	14	3	4.5	8
N	12	13	8	8	11.5	13.5
O	3	4	3	15	15	15

Fourth Grade

A	17	25	13	3.5	4	3
B	4	7	1	18	17.5	18
C	21	21	12	1.5	5.5	5.5
D	11	16	10	11	9.5	10
E	9	18	12	13	7	5.5
F	11	16	10	11	9.5	10
G	6	13	7	17	14.5	14
H	21	33	21	1.5	1	1
I	8	8	4	14.5	16	16
J	11	16	11	11	9.5	8
K	13	21	14	8.5	5.5	2
L	15	28	12	6	2.5	5.5
M	0	10	4	16	17.5	17
N	7	7	3	16.5	17.5	17
O	17	28	12	3.5	2.5	5.5
P	14	14	10	7	13	10
Q	16	16	7	5.	9.5	14
R	13	13	7	8.5	14.5	14
S	8	15	8	14.5	12	12
T	0	0	0			

ALMA GRADE SCHOOL
INDEX OF CORRELATION
RATE AND ACCURACY--REASONING TEST IN ARITH.--MONROE
FIFTH GRADE

R. RANK	A. RANK	D	-D	D^2
7	10	3		9
4.5	8	3.5		12.25
6	6			
13	8		5	25
1	1			
10	13	3		9
11	5		6	
8.5	11.5	3		
8.5	11.5	3		
2	3	1		
4.5	4		.5	
14	14		1	1
3	2		1	1
12	8		4	16
				118.5

$$p = 1 - \frac{6 \times 118.5}{14 (14^2 - 1)} = .74$$

$$r = .76$$

$$P.E. = \pm .6745 \frac{1 - .76^2}{3.7} = \pm .08$$

ALMA GRADE SCHOOL
INDEX OF CORRELATION
RATE AND ACCURACY--REASONING TEST IN ARITH.--MONROE.

Sixth Grade

R. Rank	A. Rank	D	-D	D^2
12.5	8		4.5	20.25
1	1			
3	3.5	.5		.25
8	5.5		2.5	6.25
12.5	12		.5	.25
5.5	3.5		2	4
14	8		6	36
11	13.5	2.5		6.25
10	2		8	64
5.5	5.5			
3.	10	7		49
8	11	3		9
3	8	5		25
8	13.5	5.5		30.25
				250.5

$$p = 1 - \frac{6 \times 250.5}{15\,(15^2 - 1)} = .55$$

$$r = .57$$

$$P.E. = \pm .6745\,\frac{1 - .57^2}{3.8} = \pm .12$$

ALMA GRADE SCHOOL
INDEX OF CORRELATION
RATE AND ACCURACY--REASONING TEST IN ARITHMETIC
MONROE
Fourth Grade

R. RANK	A. RANK	D	-D	D^2
3.5	3		.5	.25
18	18			
1.5	5.5	4		16.
11	10		1	1
13	5.5		7.5	56.25
11	10		1	1
17	14		3	9
1.5	1		.5	.25
14.5	16	1.5		2.25
11	8		3	9
8.5	2		6.5	42.25
6	5.5		.5	.25
16.5	17	1		1
3.5	5.5	2		4
7	10	3		9
5	14	9		81
8.5	14	5.5		30.25
14.5	12		2.5	6.25
				269.

$$\rho = 1 - \frac{6 \times 269}{18(18^2 - 1)} = .72$$

$$r = .736$$

$$\text{P. E.} = \pm .6745 \frac{1 - .74^2}{4.2} = \pm .07$$

PROBLEM II

PROBLEM. What is the correlation between reasoning and accuracy in arithmetic?

DATA. The Monroe Standardized Reasoning Tests in Arithmetic were given according to directions in grades four to six in the Alma grade schools.

Using Spearman's method of rank differences the results were as follows:

Grade	ρ	r	P.E.
Four	.94	.945	±.015
Five	.95	.954	±.017
Six	.89	~~2.90~~	±.033
		3)2.799 .93	

(See following pages for data of solution)

CONCLUSION. Although the number of cases (18, 14 & 15) is small the high index of correlation as derived from the arithmetic mean of the indices of correlation shows a very close connection between reasoning and accuracy in arithmetic.

ALMA GRADE SCHOOL
INDEX OF CORRELATION
STANDARDIZED REASONING TEST IN ARITHMETIC
PRINCIPLE AND ACCURACY

Fifth Grade

P. RANK	A. RANK	D	-D	D^2
10	10			
4	8	4		16
6.5	6		.5	.25
9	8		1	1
1	1			
13	13			
6.5	5		1.5	2.25
11.5	11.5			
11.5	11.5			
2	3	1		1
5	4		1	1
14	14			
3	2		1	1
8	8			
				22.5

$$\rho = 1 - \frac{6 \times 22.5}{14\,(14^2 - 1)} = .95$$

$r = .954$

P. E. $= \pm .017$

ALMA GRADE SCHOOL
INDEX OF CORRELATION
STANDARDIZED REASONING TEST IN
ARITHMETIC--MONROE

Sixth Grade

P. RANK	A. RANK	D	-D	D^2
9.5	8		1.5	2.25
2	1		1	1
4.5	3.5		1	1
6.5	5.5		1	1
13	12		1	1
6.5	3.5		3	9
11.5	8		3.5	12.25
14	13.5		.5	.25
2	2			
2	5.5	3.5		12.25
8	10	2		4
9.5	11	1.5		2.25
4.5	8	3.5		12.25
11.5	13.5	2		4
11.5	15			
				62.5

$$\rho = 1 - \frac{6 \times 62.5}{15.(15^2 - 1)} = .89$$

$$r = .90$$

$$\text{P. E.} = \pm .6745 \frac{1 - .9^2}{3.8} = \pm .03$$

ALMA GRADE SCHOOL
INDEX OF CORRELATION
PRINCIPLE AND ACCURACY--REASONING TEST IN ARITHMETIC--MONROE

Fourth Grade

P. RANK	A. RANK	D	-D	D^2
4	3		1	1
17.5	18	.5		.25
5.5	5.5			
9.5	10	.5		.25
7	5.5		1.5	2.25
9.5	10	.5		.25
14.5	14		.5	.25
1	1			
16	16			
9.5	8		1.5	2.25
5.5	2		3.5	12.25
2.5	5.5	3		9
17.5	17		.5	.25
2.5	5.5	3		9
13	10		3	9
9.5	14	4.5		20.25
14.5	14		.5	.25
12	12			
				57.5

$$\rho = 1 - \frac{6 \times 57.5}{18(18^2 - 1)} = .945$$

$$r = .945$$

$$P.E. = \pm .6745 \frac{1 - .94^2}{4.2} = \pm .01$$

PROBLEM III

PROBLEM. What is the correlation between rate and correctness of reasoning in arithmetic?

DATA. The Monroe Standardized Reasoning Tests in Arithmetic were given according to directions in grades four to six in the Alma grade schools.

Using Spearman's method of rank differences the results were as follows:

GRADE	ρ	r	P. E.
Four	.803	.8135	$\pm$.06
Five	.804	.8135	$\pm$.06
Six	.70	.72	$\pm$.08

$$3)\overline{2.347}$$
$$.782$$

CONCLUSION. Although the number of cases (18,14 & 15) is small yet the high arithmetic mean of the indices of correlation and the low probable errors of the several computations would seem to show a very close connection between rate of performance and correctness of reasoning in arithmetic.

(See following pages for data of the several computations)

ALMA GRADE SCHOOL
INDEX OF CORRELATION
RATE AND CORRECTNESS OF REASONING--REASONING TEST
in ARITHMETIC--MONROE

Fourth Grade

R. RANK	PRINCIPLE RANK	D	- D	D^2
3.5	4	.5		.25
18	17.5		.5	.25
1.5	5.5	4		16
11	9.5		1.5	2.25
13	7		6	36
11	9.5		1.5	2.25
17	14.5		2.5	6.25
1.5	1		.5	.25
14.5	16	1.5		2.25
11	9.5		1.5	2.25
8.5	5.5		3	9
6	2.5		3.5	12.25
16	17.5	1.5		2.25
3.5	2.5		1	1
7	13	6		36
5	9.5	4.5		20.25
8.5	14.5	6		36
14.5	12		2.5	6.25
				191

$$\rho = 1 - \frac{6 \times 191}{18\ (18^2 - 1)} = .803$$

$r = .81$

P. E. $= \pm .05$

ALMA GRADE SCHOOL
INDEX OF CORRELATION
RATE AND PRINCIPLE--REASONING TEST IN ARITH.
MONROE

Fifth Grade

R. Rank	P. Rank	D	-D	D^2
7	10	3		9
4.5	4		.5	.25
6	6.5	.5		.25
13	9		4	16
1	1			
10	13	3		9
11	6.5		4.5	20.25
8.5	11.5	3		9
8.5	11.5	3		9
2	2			
4.5	5	.5		.25
14	14			
3	3			
12	8		4	
				89

$$\rho = 1 - \frac{6 \times 89}{14\,(14^2 - 1)} = .804$$

$$r = .813$$

$$\text{P. E.} = \pm .6745\,\frac{1 - .81^2}{3.7} = \pm .06$$

ALMA GRADE SCHOOL
INDEX OF CORRELATION
RATE AND PRINCIPLE--REASONING TEST IN ARITH.-MONROE

Sixth Grade

R. Rank	P. Rank	D	-D	D^2
12.5	9.5		3	9
1	2	1		1
3	4.5	1.5		2.25
8	6.5		1.5	2.25
12.5	13	.5		.25
5.5	6.5	1		1
14	11.5		2.5	6.25
11	14	3		9
10	2		8	64
5.5	2		3.5	12.25
3	8	5		25
8	9.5	1.5		2.25
3	4.5	1.5		2.25
8	11.5	3.5		12.25
15	15			
				149

$$\rho = 1 - \frac{6 \times 149}{15(15^2 - 1)} = .70$$

$$r = .72$$

$$\text{P. E.} = \pm .6745 \frac{1 - .72^2}{\sqrt{8}} = \pm .08$$

PROBLEM IV

PROBLEM. What is the correlation between ability to memorize and the ability to reason in geography?

DATA. Questions on geography which required reasoning in their answers were taken from the Hahn-Lackey test and compared with others taken from the same test which depended almost entirely on ability to memorize. Two examinations were given to a seventh grade class one each of each type of questions and the results carefully graded by the same teacher.

Using Spearman's method of rank differences, the results were as follows:

First Examination :

$\rho = .34$ $r = .354$ P.E. $= \pm .11$

Second Examination:

$\rho = .50$ $r = .52$ P.E. $= \pm .09$

(See following pages for questions and date of the solution of the two examinations)

HAHN LACKEY GEOGRAPHY TEST

SEVENTH GRADE

TEST # I (Information).

1. Give the name of the greatest mountain range in Asia and tell where it is located.
2. Give two proofs that the world is round.
3. Name five of the more important republics of the world.
4. Name three chief exports of Asia.
5. Name three of the chief products of each of the following islands: Java, Philippines, Sumatra, Moluccas.
6. Name two natural conditions beside climate that are essential to successful agriculture.
7. Name the country that controls each of the following: Iceland, Korea, Hawaii, Madagascar, New Zealand.
8. Locate the following: Dardanelles, Panama Canal, Mecca, Vera Cruz, Singapore.
9. Name five of the largest peninsulas of the world.

TEST # 2 (Reasoning)

1. Why does the sun seem to rise in the east and set in the west?
2. Give two reasons why North Dakota is not as good a place to raise corn as Iowa.
3. Explain why wheat is the principal crop in south-western Canada while corn isthe most important in Nebraska.
4. Give two reasons why southern California is warmer in winter than Nebraska.
5. Give the principal reason why Argentina is a progressive nation.
6. Give one reason why Japan is anxious to secure for her people the unlimited right to emigrate to other lands.
7. Explain why the rivers of Africa have not been more useful in the exploration and development of the continent.
8. How could you prove by referring to the map which is farther north, San Francisco or Salt Lake City? Farther west?
9. Why should Russia wish to gain control of Constantinople?

HAHN LACKEY GEOGRAPHY TEST

SEVENTH GRADE

TEST # 3. (Information).

1. How are valleys made?
2. Where does the moon get its light?
3. Name two important crops raised in the southern United States and tell why they are grown there.
4. Name a mountain range and a river between Europe and Asia.
5. What direction is Australia from Asia and to whom does it belong?
6. Name two states wholly or partly in the Lake Plains of the United States.
7. Name a large lake wholly in the United States.

TEST # 4. (Reasoning)

1. Why would you not expect Russia to have as many sailors as England?
2. Why arethe Great Plains just east of the Rocky mountains not good for farming?
3. In what part of Australia are most of the people found?
4. A doctor advises his patient to go to a region of light air and dry climate. Where would he go?
5. What good may leaves do after they fall from the trees in autumn?
6. Give two reasons why central United States is good for farming.

HAHN-LACKEY GEOGRAPHY TEST
INDEX OF CORRELATION
INFORMATION AND THOUGHT GETTING

	Examin I.				Examin. II.			
Pupil	Information	Thought	I.Rank	T. Rank	Information	Thought	I.R.	T.R.
A	21	33	25	19	28.5	19	23	24
B	22	55	24	6	50	64	18	13
C	22.5	27.5	23	22	64	67	13	8.5
D	23	23	22	23	39	56	21	18
E	23.5	38.5	21	15.5	34			
F	24	30	20	21	34	48	22	20
G	25	45.5	18.5	11	43	78	19.5	6
H	25	36.5	18.5	17	81.5	64	9.5	13
I	26	38.5	16	15.5	57.5	35	15	21
J	26	33	16	19	71.5	60	12	15.5
K	26	16.5	16	25	24	33	24	22
L	29	54	14	7	57	64	16.5	13
M	31	40.5	13	14	97.5	60	3	15.5
N	39	68.5	12	2	93	66	5	10.5
O	39.5	50	11	8.5	62	73	14.	7
P	40	49	10	10	85.5	58.	7.5	17
Q	46	33	9	19	43	67	19.5	8.5
R	51	18	8	24	57	25	16.5	23
S	53	45	7	12	81.5	100	9.5	1
T	58	50	6	8.5	85.5	89	7.5	2
U	60	43.5	5	13	87.5	83	6	4
V	63.5	66.5	4	3	100	83	1.5	4
W	75.5	65.5	3	4	93.5	51	4	19
X	78	72	2	1	100	83	1.5	4
Y	81	60	1	5	78	66	11	10.5

HAHN-LACKEY GEOGRAPHY TEST
INDEX OF CORRELATION
INDORMATION AND REASONING

I. Rank	R. Rank	D	-D	D^2
25	19		6	36
24	6		18	324
23	22		1	1
22	23	1		1
21	15.5		5.5	30.25
20	21	1		1
18.5	11		7.5	56.25
18.5	17		.5	.25
16	15.5		.5	.25
15	19	3		9
16	25	9		81.
14	7		7	49.
13	14	1		1.
12	2		10	100.
11	8.5		2.5	6.25
10	10			
9	19	10		100.
8	24	16		256.
7	12	5		25
6	8.5	2.5		6.25
5	13	8		64.
4	3		1	1
3	4	1		1.
2	1		1	1
1	5	4		16.
				1166.50

$$\rho = 1 - \frac{6 \times 1166.5}{25\ (25^2 - 1)} = .34$$

$$r = .354$$

$$P.E. = -.11$$

HAHN-LACKEY GEOGRAPHY TEST
INDEX OF CORRELATION
INFORMATION AND REASONING # 2

I. Rank	R. Rank	D	-D	D^2
23	24	1		1
18	13		5	25
13	8.5		4.5	20.25
21	18		3	9
22	20		2.	4
19.5	6		13.5	182.25
9.5	13	3.5		12.25
15	21	6		36
12	15.5	3.5		12.25
24	22		2	4
16.5	13		3.5	12.25
3	15.5	12.5		156.25
5.5	10.5	5.5		30.25
14	7		7	49
7.5	17	9.5		90.25
19.5	8.5		11	121
16.5	23	6.5		42.25
9.5	1		8.5	72.25
7.5	2		5.5	30.25
6.	4		2	4
1.5	4	2.5		6.25
4.	19	15		225
1.5	4	2.5		6.25
11	10.5		.5	.25
				1151.5

$$\rho = 1 - \frac{6 \times 1151.5}{24\,(24^2 - 1)} = .50$$

$$r = .52$$

$$\text{P. E.} = \pm .6745 \frac{1 - .52^2}{\sqrt{24}} = \pm .09$$

PROBLEM V.

PROBLEM. What is the correlation between the teacher's estimate of the child's ability to read and the mere reading of words correctly disregarding thought?

DATA. The Price Practical Oral Reading Test. The Price test is based entirely upon the child's ability to pronounce words correctly, his rate of reading, the words transposed and words left out being considered. In fact technique is the only consideration. The child reads selected material for one minute, the total number of words put in, words left out and words miscalled. He is then given a score by subtracting the number of errors from the number of words read, multiplying by one hundred and dividing by the number of words read.

In the Alma schools the test was given to the grades from the second to the eighth inclusive, the children in each room were ranked according to the scores made in the test and also according to the teacher's estimate of the child's ability to read. Then the results were correlated by the Spearman Foot Rule method, with the following results.

GRADE	NO. OF PUPILS	ρ	r	P. E.
8	18	.55	.58	±.117
7	19	.87	.88	.033
6	17	.89	.90	±.03
5	17	.74	.89	±.90
4	16	.89	.90	.03
3	14	.94	.96	.02
2	15	.67	.69	.09

76

7)5.69

.81

(See following pages for data of solution)

CONCLUSION. From the high average index of correlation it is evident that most teachers are estimating the child's ability upon technique only or else technique accompanies ability to read, ie, get thought. It is interesting to note that teachers with a low index of correlation criticized the test, saying that the children who got the high grade in some cases were poor readers in that they did not get thought.

ALMA GRADE SCHOOL
INDEX OF CORRELATION
PRACTICAL ORAL READING TEST--PRICE

Eighth Grade

Pupil	Words Mis-called	Words Put In	Words Left Out	Trans-posed Words	No. Words Read	No. Mis-takes	Score	Teacher's Ranking	Price Test Ranking
A	12		1		112	13	8.036	16	16
B	5		3		123	8	10,752	8	15
C	6				123	6	11,121	10	14
D	4		1		122	5	11,407	16	13
E	2				120	2	11,603	4	12
F	3				130	3	12,406	12	11
G	7				140	7	12,706	11	10
H	4				139	4	13,111	5	9
I	1		1		137	2	13,302	14	8
J	5		1		157	6	14,652	6	7
K	3	1		1	160	5	15,015		
L	3	1			157	4	14,973	9	6
M	3				157	3	15,105	7	5
N	2				157	2	15,235	3	4
O	6	1	1		176	8	16,614	13	3
P	6				194	6	18.712	1	2
Q	4				198	4	19,008	2	1

Median 13,222.5

ALMA GRADE SCHOOLS
INDEX OF CORRELATION
PRICE--PRACTICAL ORAL READING TEST
AND TEACHER'S MARKS

Eighth Grade

Ranking Price Test	Ranking Teacher	D	-D	D^2
1	2	1		1
2	1		1	1
3	13	10		100
4	3		1	1
5	7	2		4
6	9	3		9
7	6		1	1
8	14	6		36
9	5		4	16
10	11	1		1
11	12	1		1
12	4		8	1
13	15	2		4
14	10		4	49
15	8		7	0
16	16	0		0
				304

$$\rho = 1 - \frac{6 \times 304}{16\,(16^2-1)} = .55$$

$$\text{P. E.} = \pm .6745\,\frac{1-.55^2}{4} = \pm .117$$

$$r = .58$$

ALMA GRADE SCHOOL
INDEX OF CORRELATION
PRACTICAL ORAL READING TEST--PRICE

Seventh Grade

Pupil	Words Mis-Called	Words Put in	Words Left Out	Trans-posed Words	No. Words Read	No. Mis-takes	Score	Teacher's Ranking	Price Test Ranking
A	6				68	6	5,652	19	19
B	3				76	3	7,118	14	18
C	8				88	8	7,272	17	17
D	6				88	6	7,640	18	16
E	3				84	3	7,810	13	15
F	5				90	5	8,027	16	14
G	5				97	5	8,725	15	13
H	4		4		105	8	8,903	10	12
I	1				125	1	12,300	8	11
J	2				132	2	12,424	12	10
K	3				151	3	14,505	9	9
L	1		1		153	2	14,902	4	8
M	2				157	2	15,402	5	7
N	2				158	2	15,402	7	6
P					156		15,600	2	5
Q	3				166	3	16,005	6	4
R	4		2		181	6	15,919	11	3
S	3		2		210	5	19,773	3	2
T					201		20,100	1	1

Median 12,424

ALMA GRADE SCHOOL
INDEX OF CORRELATION
PRICE PRACTICAL ORAL READING TEST
AND TEACHER'S MARKS

Seventh Grade

Ranking Price Test	Ranking Teacher	D	-D	D^2
1	1	0		0
2	3	1		1
3	11	8		64
4	6	2		4
5	2		3	9
6	7	1		1
7	5		2	4
8	4		4	16
9	9	0		0
10	12	2		4
11	8		3	9
12	10		2	4
13	15	2		4
14	16	2		4
15	13		2	4
16	18	2		4
17	17	0		0
18	14		4	16
19	19	0		0
				148

$$\rho = 1 - \frac{6 \times 148}{19(19^2 - 1)} = .87$$

$$\text{P. E.} = \pm .6745 \frac{1 - .87^2}{\sqrt{19}} = \pm .033$$

$$r = .88$$

ALMA GRADE SCHOOL
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PRACTICAL ORAL READING TEST--PRICE

Sixth Grade

Pupil	Words Mis-called	Words Put In	Words Left Out	Trans-posed Words	No. Words Read	No. Mis-takes	Score	Teach-er's Rank-ing	Price Test Rank-ing
A	7				74	7	6,066	13	17
B	10				94	10	7,506	15	16
C	8				98	8	8,265	17	15
D	8				104	8	8,861	14	14
E	8				106	8	9,060	16	13
F	1				103	1	10,000	10	12
G	4		1		102	5	11,020	9	11
H	12		1		142	13	11,719	7	10
I	1				133	1	13,100	11	9
J	8		4		161	12	13,168	12	8
K	4				144	4	13,611	8	7
L	4	2			152	6	14,023	5	6
M	2				150	2	15,269	4	5
N					161		16,100	3	4
O					161		16,100	2	3
P	1				167	1	16,460	6	2
Q	4	1			176	5	16,500	1	1

Median 13,100

ALMA GRADE SCHOOL
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PRICE PRACTICAL ORAL READING TEST
AND TEACHER'S MARKS

Sixth Grade

Ranking Price Test	Ranking Teacher	D	-D	D^2
1	1	0		0
2	6	4		16
3	2		1	1
4	3		1	1
5		4	1	1
6	5		1	1
7	8	1		1
8	12	4		16
9	11	2		4
10	7		3	9
11	9		2	4
12	10		2	4
13	16	3		9
14	14	0		0
15	17	2		4
16	15		1	1
17	13	4		16
				88

$$\rho = 1 - \frac{6 \times 88}{17(17^2 - 1)} = .89$$

$$\text{P. E.} = \pm .6745 \frac{1 - .89^2}{\sqrt{17}} = \pm .03$$

$$r = .90$$

ALMA GRADE SCHOOL
INDEX OF CORRELATION
PRACTICAL ORAL READING TEST--PRICE

Fifth Grade

Pupil	Words Mis-called	Words Put In	Words Left Out	Trans-posed Words	No. Words Read	No. Mis-takes	Score	Teacher's Ranking	Price Test Rank-ing
A	8		1		48	9	3,168	17	17
B	1		1		99	2	9,504	13	16
C	3				104	3	9,808	12	15
D	6	1	2		119	9	10,168	14	14
E	3				108	3	10,208	10	13
F	5				108	5	9,823	16	12
G	4	1			113	5	10,322	8	11
H	7	1			122	8	10,652	6	10
I	2				123	2	11,903	5	9
J	5	1	2		139	8-	12,348	11	8
K	4				134	4	12,611	15	7
L	2				135	2	13,102	7	6
M	1				134	1	13,200	4	5
N	5				142	5	13,217	9	4
O	2				151	2	14,702	3	3
P	5				159	5	14,915	2	2
Q			1		163	1	16,100	1	1

Median 11,903

ALMA GRADE SCHOOL
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PRICE PRACTICAL ORAL READING TEST
AND TEACHER'S MARKS

Fifth Grade

Ranking Price Test	Ranking Teacher	D	-D	D^2
1	1	0		0
2	2	0		0
3	3	0		0
4	9	5		25
5	4		1	1
6	7	1		1
7	16	9		81
8	12	4		16
9	5		4	16
10	6		4	16
11	8		3	9
12	16	4		16
13	10		3	9
14	14	0		0
15	12		3	9
16	13		3	9
17	17	0		0
				208

$$\rho = 1 - \frac{6 \times 208}{17(17^2 - 1)} = .74$$

$$\text{P. E.} = \pm .6745 \frac{1 - .74^2}{\sqrt{17}} = \pm .08$$

$$r = .76$$

ALMA GRADE SCHOOL
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PRACTICAL ORAL READING TEST--PRICE

Fourth Grade

Pupil	Words Mis-called	Words Put In	Words Left Out	Trans-posed words	No. Words Read	No. Mis-takes	Score	Teacher's Ranking	Price Test Ranking
A	2				31	2	2,712	16	16
B	6				57	6	4,563	13	15
C	4				58	4	4,855	12	14
D	4				63	4	5,525	15	13
E	3	1			72	4	6,621	14	12
F	6	3	1		100	10	8,100	10	11
G	2				85	2	8,104	11	10
H	1				95	1	9,195	7	9
I	2		1		102	3	9,608	3	8
J	1				104	1	10,200	8	7
K	1				121	1	11,074	9	6
L	1				122	1	12,000	4	5
M	1				125	1	12,380	5	4
N	2	1			133	3	12,706	6	3
O		1			151	1	14,900	1	2
P	2				166	2	16,202	2	1

Median 9,401.5

ALMA GRADE SCHOOL

INDEX OF CORRELATION

PRICE PRACTICAL ORAL READING TEST

AND TEACHER'S MARKS

Fourth Grade

Ranking Price Test	Ranking Teacher	D	-D	D^2
1	2	1		1
2	1		1	1
3	6	3		9
4	5	1		1
5	4		1	1
6	9	3		9
7	8	1		1
8	3		5	25
9	7		2	4
10	11	1		1
11	10		1	1
12	14	3		4
13	15	2		4
14	12		2	4
15	13		2	4
16	16	0		0
				70

$$\rho = 1 - \frac{6 \times 70}{16\,(16^2 - 1)} = .89$$

$$\text{P. E.} = .6745\,\frac{1 - .89^2}{\sqrt{16}} = \pm .05$$

$$r = .90$$

ALMA GRADE SCHOOL
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PRACTICAL ORAL READING TEXT--PRICE

Third Grade

Pupil	Words Mis-called	Words Put In	Words Left Out	Trans-posed Words	No. Words Read	No. Mis-takes	Score	Teacher's Ranking	Price Test Ranking
A	3			11	3	581	14	14
B	8			29	8	1,520	12	13
C	5			41	5	3,160	13	12
D	2			61	2	5,706	10	11
E	4			66	4	5,824	11	10
F	2			68	2	6,405	9	9
G	3			81	3	7,511	8	8
H				77		7,700	7	7
I	1			101	1	9,900	3	6
J	4			118	4	11,005	6	5
K				125		12,500	5	4
L	1			137	1	13,501	2	3
M	2		1	155	3	14,905	1	2
N			1	160	1	15,800	4	1

Median 7,605.5

ALMA GRADE SCHOOL

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PRICE PRACTICAL ORAL READING TEST AND TEACHER'S MARKS

Third Grade

Ranking Price Test	Ranking Teacher	D	-D	D^2
1	4	3		9
2	1		1	1
3	2		1	1
4	5	1		1
5	6	1		1
6	3		3	9
7	7	0		0
8	8	0		0
9	9	0		0
10	11	1		1
11	10		1	1
12	13	1		1
13	12		1	1
14	14	0		0
				27

$$\rho = 1 - \frac{6 \times 27}{14\,(14^2 - 1)} = .94$$

$$\text{P. E.} = -.6745\,\frac{1 - .94^2}{\sqrt{14}} = \pm .08$$

$$r = .945$$

ALMA GRADE SCHOOL
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PRACTICAL ORAL READING TEST--PRICE
Second Grade

Pupil	Words Mis-called	Words Put in	Words Left Out	Trans-posed Words	No. Words Read	No. Mis-takes	Score	Teacher's Ranking	Price Test Ranking
A	3				39	3	3,323	15	15
B	6				68	6	5,064	11	14
C	4				63	4	5,525	14	13
D	1	1	1		68	3	6,213	5	12
E	3				72	3	6,612	12	11
F					77		7,700	9	10
G	4				90	4	8,217	7	9
H	2			1	92	3	8,609	10	8
I	3	1	1		100	5	9,025	2	7
J	1				100	1	9,801	13	6
K					103		10,300	3	5
L	1		1		115	2	11,103	8	4
M	1				116	1	11,400	6	3
N	1				117	1	11,500	1	2
O	1		1		120	2	11,570	4	1

Median 8,609

ALMA GRADE SCHOOL
INDEX OF CORRELATION
PRICE PRACTICAL ORAL READING TEST
AND TEACHER'S MARKS

Second Grade

Ranking Price Test	Ranking Teacher	D	-D	D^2
1	4	3		9
2	1		1	1
3	6	3		9
4	8	4		16
5	3		2	4
6	13	7		49
7	2		5	25
8	10	2		4
9	7		2	4
10	9		1	1
11	12	1		1
12	5		7	49
13	14	1		1
14	11		3	9
15	15	0		0
			ΣD^2 =	182

$$\rho = \frac{1 - 6\Sigma D^2}{n(n^2 - 1)} = 1 - \frac{6 \times 182}{15(225-1)} = 1 - 13/40 = 27/40 = .67$$

$$P.E. = \pm .6745 \times \frac{1 - .67^2}{\sqrt{15}} = \pm .6745 \frac{1 - .448}{3.8} = = \pm .09$$

$$r = \pm .69$$

OTIS GROUP INTELLIGENCE SCALE

Devised by ARTHUR S. OTIS

Edition: 1919

Form B

EXAMINATION BOOKLET

Examination Number..... Name.....
(First name, initial, and last name)

Age last birthday.....years. Birthday.....
(Tell in figures) (Month, day)

School..... Grade.....

City..... Date.....19....
(Month, day, year)

(Do not write below this line.)

Remarks or Further Data

1.....

2.....

3.....

4.....

5.....

6.....

7.....

8.....

9.....

10.....

11.....

12.....

13.....

14.....

15.....

TEST	SCORE
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
Total Score	
MA	
IQ	
PR	
CB	

OGIS: B–4

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TEST 1

Following Directions

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Sample problem. Write the fifth letter of the alphabet.....(E)

Begin here:

1. Do you understand that each letter is to be a capital made like printing and put in the parenthesis after the problem? If so, write P in the parenthesis.....( ) 1
2. Will you remember not to ask any questions during the examination? If so, write N.....( ) 2
3. Will you remember not to look toward the paper of any other pupil during the examination? If so, write R.....( ) 3
4. Will you remember not to turn over your booklet or any page of it at any time unless you are told to? If so, write T, if not, write N.....( ) 4
5. Write the letter A .....( ) 5
6. Write the seventh letter of the alphabet .....( ) 6
7. Write the same letter that you were told to write in the fifth problem.....( ) 7
8. Write the letter which follows the fourth letter of the alphabet.....( ) 8
9. Write the letter which the letter M follows in the alphabet .....( ) 9
10. If L comes after S in the alphabet, write L; if not, write S .....( ) 10
11. Suppose all the odd numbered letters in the alphabet (that is, the 1st, 3d, 5th, etc.) were crossed out. The fourth letter left, not crossed out, would be what letter?( ) 11
12. Write the letter which follows the letter which comes next after C in the alphabet.( ) 12
13. If G and H appear together in the alphabet, write H, unless S and Y also appear together in the alphabet, in which case write S instead .....( ) 13
14. Write the letter which is the third letter to the right of the letter which is midway between M and Q.....( ) 14
15. Suppose that the first and second letters of the alphabet were interchanged, also the third and fourth, the fifth and sixth, etc. Write the letter which would then be the 15th letter in the alphabet.....( ) 15
16. A certain letter is the second letter to the right of another letter. This second letter is the fifth letter to the left of R. What is the "certain letter" first mentioned?( ) 16
17. A certain letter is the fourth letter to the left of another letter. This other letter is midway between two other letters. One of these last two letters is next after F in the alphabet and the other is just before L in the alphabet. What is the "certain letter" first mentioned? .....( ) 17
18. If the letters in the word SO appear in the same order that they do in the alphabet and if the same is true of the letters in the word BY, write the letter Z. But if this is true of only one of these words, write the last letter of that word.....( ) 18
19. Find a certain letter which, in this sentence, appears a second time nearest the beginning. Write it, using a capital .....( ) 19
20. Find the two letters in the word SYRUP which have just as many letters between them in the word as in the alphabet. Write the one of these two letters that comes first in the alphabet.....( ) 20

Score.....

TEST 2

Opposites

Samples: up .....(short, down, small, low, young)
hot.....(warm, ice, dark, cold, fire)

DIRECTIONS. Look at the first word on each line, think what word means exactly the opposite of it, find that word among the five words in parenthesis on that line and draw a line under it.

Begin here:

1. north.....(pole, south, west, east, equator) 1
2. no .....(right, sure, yes, nothing, maybe)..... 2
3. bottom .....(top, side, cover, middle, over)..... 3
4. after .....(early, now, soon, follow, before) 4
5. easy.....(long, quick, slow, difficult, common) 5
6. enemy.....(fight, neighbor, friend, stranger, foe) 6
7. fail.....(pail, try, good, succeed, win) 7
8. strong.....(man, weak, small, short, thin)..... 8
9. pretty.....(good, ugly, bad, crooked, nice) 9
10. obey .....(order, officer, command, lead, soldier) 10
11. sorrow.....(sickness, health, good, joy, pride) 11
12. contract .....(small, shrink, expand, stay, explode) 12
13. truth.....(tell, no, liar, ignorance, falsehood) 13
14. hate.....(enemy, fear, love, friend, joy) 14
15. accept.....(receive, percept, deny, reject, spend) 15
16. economical.....(cheap, stingy, extravagant, value, rich)..... 16
17. destroy .....(abolish, change, continue, restore, alter) 17
18. never.....(often, sometimes, occasionally, always, frequently) 18
19. treacherous.....(friendly, brave, wise, cowardly, loyal) 19
20. honor.....(glory, shame, cowardice, fear, defeat)..... 20
21. constant .....(always, fickle, stationary, seldom, movable) 21
22. hope.....(faith, misery, sorrow, despair, hate) 22
23. because.....(although, cause, maybe, since, therefore)..... 23
24. but.....(and, nevertheless, whether, even, never) 24
25. if .....(however, unless, also, therefore, and)..... 25

Score.....

TEST 3

Disarranged Sentences

Samples:
- men money for work ..... (true false)
- uphill rivers flow all ..... (true false)
- ocean waves the has ..... (true false)

DIRECTIONS. The words on each line below make one sentence if put in order. If the sentence the words would make is *true*, underline the word *true* at the side of the page. If the sentence they would make is *false*, underline the word *false*.

Begin here:

1. give milk cows ..... (true false) 1
2. sun night the shines at ..... (true false) 2
3. cannons loud make noise a ..... (true false) 3
4. months warmest are summer the ..... (true false) 4
5. of cups all made are cotton ..... (true false) 5
6. pens for used are writing ink and ..... (true false) 6
7. are and apples long thin ..... (true false) 7
8. wood eat and good to are coal ..... (true false) 8
9. months there twelve year are a in ..... (true false) 9
10. made chairs wood are of usually ..... (true false) 10
11. tails have all short very monkeys ..... (true false) 11
12. people are many candy of fond ..... (true false) 12
13. and cows from honey come bread ..... (true false) 13
14. comes sky salt down the from ..... (true false) 14
15. earth and are the close moon very together ..... (true false) 15
16. water cork on float will and wood ..... (true false) 16
17. safer are at when lighted night streets ..... (true false) 17
18. run than some can boys faster others ..... (true false) 18
19. boots for used and are shoes food ..... (true false) 19
20. very the is a ground after rain dry ..... (true false) 20
21. get grow they as children shorter older ..... (true false) 21
22. and keep feathers the warm fur animals ..... (true false) 22
23. wind when the the all blows fall trees ..... (true false) 23
24. bushes trees roots have and their ground the in .... (true false) 24
25. instruments typewriters musical are telephones and ..... (true false) 25

Right..... *Wrong*..... *Score*.....

TEST 4

Proverbs

DIRECTIONS. Read each proverb, find the statement that explains it, and put the number of that statement in the parenthesis before the proverb.

Proverbs (Group 1)

( ) The early bird catches the worm.
( ) Don't cross a bridge till you get to it.
( ) Don't cry over spilt milk.
( ) Birds of a feather flock together.
( ) Don't judge a book by its cover.
( ) Paddle your own canoe.
( ) A watched pot never boils.
( ) Cut your coat according to the cloth.
( ) Empty vessels make the most sound.
( ) Figs do not grow on thistles.

Statements to Explain Proverbs in Group 1

1. It is foolish to worry about things we can't help.
2. People seek the company of those who are like them.
3. If you would succeed, be on time.
4. Depend on yourself.
5. Impatience makes the time seem longer.
6. Don't worry over troubles before they come.
7. Good does not come from evil.
8. There is no one so wise that he is not sometimes a fool.
9. Don't believe everything you hear.
10. External appearances may be deceiving.
11. Those who are the most boastful are the least important.
12. Make your plans to fit the possibilities.

Proverbs (Group 2)

( ) The burnt child dreads the fire.
( ) Rome was not built in a day.
( ) He who is in the mud likes to pull another into it.
( ) Plants oft removed never thrive.
( ) Great ships require deep waters.
( ) When the cat is away the mice will play.
( ) Half a loaf is better than none.
( ) The proof of the pudding is in the eating.
( ) A mill does not grind with water that has passed by.
( ) Every path has its puddle.

Statements to Explain Proverbs in Group 2

1. Time is required to produce anything of value.
2. Failure follows frequent change of plan.
3. If we can't have all we want, we should take what we can get.
4. Unhappy experiences teach us to be careful.
5. We should take advantage of opportunities as they come.
6. When authority is absent, evil flourishes.
7. We desire most that which we do not have.
8. A thing must be tried before we know its value.
9. Every occupation involves some work that is not pleasant.
10. Those in disgrace always want to disgrace others.
11. What has been done can be done again.
12. Important work can be done only by able men.

Score.....

TEST 5

Arithmetic

DIRECTIONS. Place the answer to each problem in the parenthesis after the problem. Do any figuring you wish on the margin of the page.

1. If a boy had 15 cents and earned 10 cents, how much money did he have then? ..... ( ) cents 1
2. At 3 cents each, how much will 12 pencils cost? ..... ( ) cents 2
3. If a man had $25 and spent $15, how much money did he have left? ... ( ) dollars 3
4. At 4 cents each, how many pencils can be bought for 36 cents? ..... ( ) pencils 4
5. A boy spent 30 cents and then earned 40 cents. How much more money did he have than at first? ..... ( ) cents 5
6. How far can a train go in 6 hours at the rate of 30 miles per hour? ..... ( ) miles 6
7. How long will it take a glacier to move 2000 feet at the rate of 200 feet a year? ..... ( ) years 7
8. If $2\frac{1}{2}$ yards of cloth cost 30 cents, what will 10 yards cost? ..... ( ) cents 8
9. If 3 pencils cost 5 cents, how many pencils can be bought for 50 cents? ( ) pencils 9
10. If a man walks west from his home 8 blocks and then walks east 3 blocks, how far is he from his home? ..... ( ) blocks 10
11. If a boy can run at the rate of 6 feet in $\frac{1}{4}$ of a second, how far can he run in 10 seconds? ..... ( ) feet 11
12. A ship has provisions enough to last a crew of 15 men 40 days. How long would they last a crew of 30 men? ..... ( ) days 12
13. One schoolroom has 8 rows of seats with 8 seats in each row, and another schoolroom has 7 rows of seats with 9 seats in each row. How many more seats does one room have than the other? ..... ( ) seats 13
14. If 10 boxes full of apples weigh 400 pounds, and each box when empty weighs 4 pounds, how much do all the apples weigh? ..... ( ) pounds 14
15. If Town X is 15 miles south of Town Y, and Town Y is 30 miles south of Town Z, how far is Town X from Town Z? ..... ( ) miles 15
16. If a strip of cloth 24 inches long will shrink to 22 inches when washed, how long will a 36-inch strip be after shrinking? ..... ( ) inches 16
17. If Frank can ride a bicycle 30 feet while George runs 20 feet, how far can Frank ride while George runs 30 feet? ..... ( ) feet 17
18. A hotel serves a mixture of 2 parts cream and 3 parts milk. How many pints of cream will it take to make 15 pints of the mixture? ..... ( ) pints 18
19. If $4\frac{1}{2}$ yards of cloth cost 90 cents, what will $2\frac{1}{2}$ yards cost? ..... ( ) cents 19
20. If a wire 20 inches long is to be cut so that one piece is $\frac{2}{3}$ as long as the other piece, how long must the shortest piece be? ..... ( ) inches 20

Score.....

TEST 6

Geometric Figures

DIRECTIONS. Each problem asks a question that is answered by a number. Write the answer to each problem in the parenthesis after the statement of the problem.

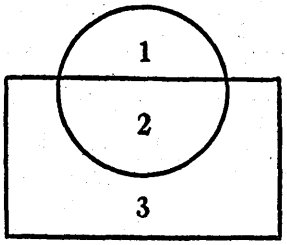


Fig. I

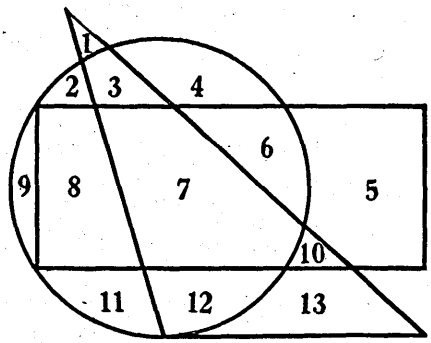


Fig. II

Sample problem:

Look at Fig. I. What number is in the circle but not in the rectangle?.....(1)

---

1. What number in Fig. I is in the rectangle but not in the circle?.....( ) 1
2. What number in Fig. I is in both the rectangle and the circle?.....( ) 2
3. Look at Fig. II (at the right). What number is in the rectangle but not in the circle nor in the triangle?.....( ) 3
4. What number in Fig. II is in the rectangle and in the triangle but not in the circle? ( ) 4

(The remaining questions all refer to Fig. II.)

5. What number is in the circle and in the rectangle and in the triangle?.....( ) 5
6. What is the smallest number that is in the triangle but not in the circle nor in the rectangle?.....( ) 6
7. What is the largest number that is in the circle but not in the triangle nor in the rectangle?.....( ) 7
8. Write the number that is in the lowest space that is in the triangle and in the circle but not in the rectangle.....( ) 8
9. Find the geometrical figure (circle, triangle, or rectangle) that has the least number of spaces in it. Write that number of spaces.....( ) 9
10. How many spaces are there each of which is in all three geometric figures?.....( ) 10
11. How many spaces are there each of which is in one and only one geometric figure?..( ) 11
12. How many spaces are there each of which is in two and only two geometric figures?( ) 12
13. We may say that space 12 is *like* space 3 because they are *both* in the circle and triangle but not in the rectangle. Any space is *like* another which is in exactly the same geometrical figures. Write the number of the space which is like space 6.....( ) 13
14. Write the number of the space which is like space 1.....( ) 14
15. How many other spaces are there like space 9?.....( ) 15
16. There is no other space like space 5, so we may call space 5 *unique* (yūneek). Any space is unique which has no other space like it. Examine spaces 8, 9, 10, 11, 12, and 13 in order until you find another unique space. Write its number.....( ) 16
17. How many unique spaces are there in Fig. II?.....( ) 17
18. What is the greatest number of unique spaces which it is possible to make by overlapping a circle, triangle, and rectangle? (You may draw any figures you wish on the margin of this page).....( ) 18
19. Also what is the least number of unique spaces possible?.....( ) 19
20. What is the greatest number of spaces which it is possible to make by overlapping a circle, triangle, and rectangle?.....( ) 20

Score.....

TEST 7

Analogies

Samples:
- finger : hand — toe : (?) ..... foot, knee, arm, shoe, nail
- clothes : man — fur : (?) .... coat, animal, hair, skin, cloth
- tall : short — fat : (?) ..... man, wide, thin, boy, heavy

DIRECTIONS. The first sample means: Finger is to hand as toe is to what? Underline the word on each line that should go in the parenthesis in place of the question mark.

Begin here:

1. foot : man — hoof : (?) ..... leg, dog, horse, boy, shoe 1
2. John : boy — Mary : (?) ..... Bessie, James, son, girl, mother 2
3. book : author — statue : (?) ..... sculptor, marble, model, magazine, man 3
4. boy : man — (?) : sheep ..... wool, lamb, goat, shepherd, dog 4
5. wood : table — (?) : knife ..... cutting, chair, fork, steel handle 5
6. elbow : arm — (?) : leg ..... foot, knee, stocking, toe, heel 6
7. uncle : aunt — son : (?) ..... brother, daughter, sister, father, girl 7
8. clock : time — thermometer : (?) ... watch, warm, bulb, mercury, temperature 8
9. electric light : candle — automobile : (?) .. carriage, electricity, tire, speed, glow .. 9
10. pitcher : milk — (?) : flowers ..... stem, leaves, water, vase, roots 10
11. order : confusion — (?) : war ..... guns, peace, powder, thunder, army 11
12. ice : water — water : (?) ..... land, steam, cold, river, thirst 12
13. moon : earth — earth : (?) ..... Mars, sun, clouds, stars, universe 13
14. food : body — (?) : engine ..... wheels, fuel, smoke, motion, fire 14
15. wire : electricity : (?) : gas ..... flame, spark, hot, pipe, stove 15
16. book : knowledge — (?) money .... paper, dollars, bank, work, gold 16
17. telephone system : city — (?) : body .. arteries, nerves, arms, clothes, skeleton 17
18. Congress : United States — (?) : city .. mayor, council, city attorney, committee, citizens 18
19. oil : toil — (?) : hate ..... love, work, boil, ate, hat 19
20. sewing machine : needle — typewriter : (?) .. pin, cloth, ink, pen, page 20
21. beautiful : appearance — sweet : (?) taste, beauty, sour, ugly, nice 21
22. sorrow : misfortune — joy : (?) ..... grief, happiness, hatred, success, pride 22
23. fear : anticipation — regret : (?) .... memory, hope, sorrow, hate, forget 23
24. physics : motion — (?) : blood ..... temperature, body, veins, physiology, geography 24
25. Wilson : democracy — Kaiser : (?) .. Germany, surrender, military, expansion, imperialism 25

Score .....

TEST 8

Similarities Test

Samples:
hat, collar, glove.....hand, cane, head, shoe, house
rose, daisy, violet.....bush, red, plant, bed, pansy
desk, bed, chair.....book, table, floor, pencil, coat

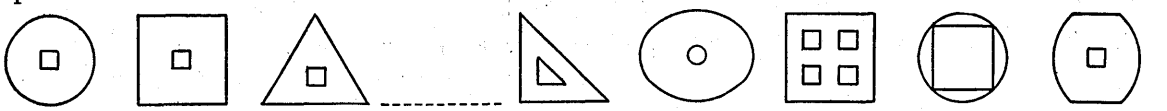
DIRECTIONS. Find the way in which the first three things on a line are alike. Then look at the five other things on the same line and draw a line under the one that is *most* like the first three.

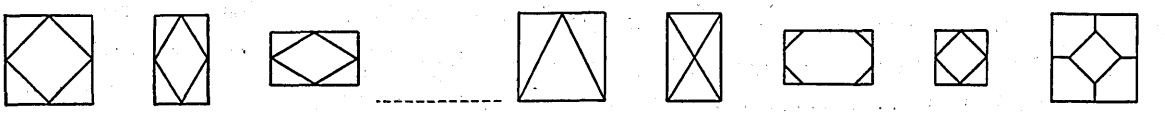
Begin here:

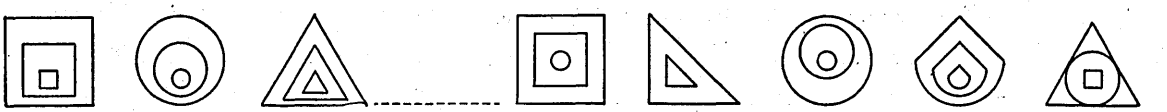
1. blue, yellow, black.....sky, red, ocean, dark, flower..... 1
2. plum, apricot, apple.....tree, seed, peach, juice, ripe..... 2
3. cup, plate, saucer.....fork, table, eat, bowl, spoon..... 3
4. horse, pigeon, cricket.....stall, saddle, eat, goat, chirp..... 4
5. boat, horse, train.....sail, row, motorcycle, move, track..... 5
6. fall, walk, turn.....down, stand, street, around, ride..... 6
7. shave, chop, whittle.....razor, beard, knife, shear, wood..... 7
8. stocking, flag, sail.....shoe, ship, staff, towel, wash..... 8
9. circle, triangle, square.....round, draw, ellipse, cube, lines..... 9
10. Roy, boy, toy.....name, play, girl, doll, joy..... 10
11. large, red, good.....heavy, size, color, apple, very..... 11
12. speech, messenger, telephone.....street, mail, send, pole, hurry..... 12
13. smuggle, steal, bribe.....mean, take, beg, lie, bad..... 13
14. pride, fear, sorrow.....habit, love, memory, life, thought..... 14
15. loyal, brave, sympathetic.....generous, rich, wise, strong, well..... 15

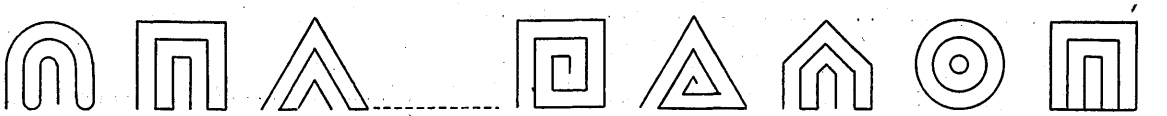
(Go on with problems 16, 17, 18, 19, and 20, in exactly the same way.)

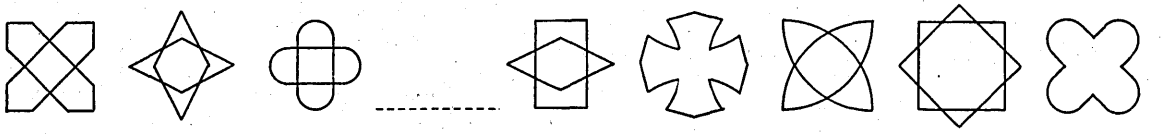
Sample:

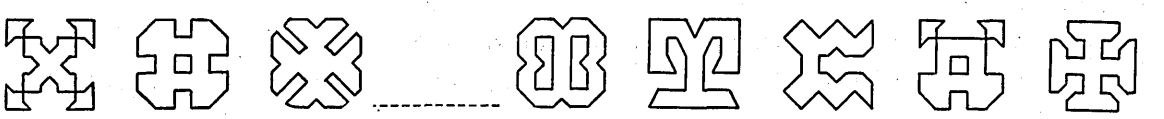


16. 

17. 

18. 

19. 

20. 

TEST 9

Narrative Completion

DIRECTIONS. For each numbered blank in the story, choose the best word of the three in the list having the same number as the blank. Underline the word you choose. You may write these words in the blank spaces if you wish, but only the underlining counts. Do nothing about the blanks that are not numbered.

The Wonderful Little Bag

Once upon a ..... (1) there was a young ..... who was very ..... (2) He went from ..... to ..... (3) trying to find ..... (4) But he was hardly able to ..... (5) enough ..... to buy ..... (6) One day he sat by the side of the road, ... to ..... (7) what he would do next.

"..... ..... almost starved," he said. (8) "Soon I shall not be ..... to ....." (9) Just then he ..... around and ..... a ..... (10) standing beside him.

"I have ..... what you .....," said the dwarf. (11) "Here is a ..... In it you will find ..... (12) You will ..... find it empty. (13) But if any one ever ..... (14) you for a ..... of your ....., do not fail to give (15) some to him." The young man took the bag, ... it and ..... till he was no ..... (16) ..... After this he was .... of enough to ..... (17) and ..... an idle ..... (18)

One day as he was ..... (19) from the....., a..... ..... (20) ..... (21) asked him for a share of his food.

"I have ..... (22) to ..... you," the .... said and went on ..... At once the feeble old man began to grow smaller and smaller until he ..... the .....

"You are a ..... (23) man," said the dwarf, who ..... (24) the ..... (25) and vanished.

Have you heard this story before?.....

Underline words here			
1. time	place	tree	1
2. bird	man	woman	2
3. rich	strong	poor	3
4. place	there	come	4
5. him	money	work	5
6. think	earn	have	6
7. remember	think	forget	7
8. He	We	I	8
9. able	strong	here	9
10. man	dwarf	tree	10
11. said	can	are	11
12. box	purse	bag	12
13. money	matches	food	13
14. never	always	not	14
15. dollar	some	share	15
16. thought	ate	drank	16
17. without	glad	sure	17
18. became	grew	made	18
19. eating	walking	coming	19
20. box	bag	purse	20
21. friend	farmer	feeble	21
22. nothing	food	something	22
23. man	beg	dwarf	23
24. strong	selfish	generous	24
25. gave	seized	was	25

Score.....

TEST 10

Memory

DIRECTIONS. Read each question and if the right answer, according to the story, is *yes*, draw a line under the word *yes*. If the right answer is *no*, draw a line under the word *no*. But if you do not know the right answer, because the story didn't say, draw a line under the words *didn't say*.

Samples:
Was the story about two shepherds? (yes no didn't say)
Were they both honest? (yes no didn't say)
Were they brothers? (yes no didn't say)

Begin here:

1. Did the first shepherd have a large flock of sheep? (yes no didn't say) 1
2. Did his sheep have fine white wool? (yes no didn't say) 2
3. Did he have a shepherd's staff? (yes no didn't say) 3
4. Did he have a dog to tend his sheep? (yes no didn't say) 4
5. Were there any lambs in the flock? (yes no didn't say) 5
6. Did he go to sleep one day under a tree? (yes no didn't say) 6
7. Did he sleep until late in the afternoon? (yes no didn't say) 7
8. When he awoke did he see his sheep far in the distance? (yes no didn't say) 8
9. Did he follow their tracks all the rest of the day trying to find them? (yes no didn't say) 9
10. Did he sit down when night came and weep over the loss of his sheep? (yes no didn't say) 10
11. Did Mercury come up and say to him, "Why do you weep, my good shepherd?" (yes no didn't say) 11
12. Did the shepherd say, "Someone has stolen my sheep"? (yes no didn't say) 12
13. Did Mercury then lead the shepherd to some sheep that were feeding in a forest? (yes no didn't say) 13
14. Did the first sheep they found have silver fleece? (yes no didn't say) 14
15. Did the shepherd wish he had the sheep with the silver fleece? (yes no didn't say) 15
16. Did they come next to the sheep that belonged to the shepherd? (yes no didn't say) 16
17. When they found the shepherd's sheep, did Mercury say, "Are these your sheep?" (yes no didn't say) 17
18. Did Mercury give the shepherd two flocks of sheep? (yes no didn't say) 18
19. Did the shepherd thank Mercury? (yes no didn't say) 19
20. Did the shepherd tell his wife the story of how Mercury had given him some sheep with gold and silver fleece? (yes no didn't say) 20
21. When he told the other shepherd his story, did the other shepherd immediately resolve to try to get some sheep with gold and silver fleece? (yes no didn't say) 21
22. Did he tie up his dog, take his sheep to pasture, go to sleep, and let his sheep stray away? (yes no didn't say) 22
23. When he awoke did he hunt for his sheep? (yes no didn't say) 23
24. Did Mercury hear him sob and come up and ask him the same question he had asked the first shepherd? (yes no didn't say) 24
25. Did the shepherd say, "I have lost my sheep with gold and silver fleece"? (yes no didn't say) 25
26. Did Mercury lead this shepherd to the same pasture to which he had led the first shepherd? (yes no didn't say) 26
27. When the shepherd saw the sheep with the silver fleece, did he exclaim, "Ah, these are my sheep; I know them every one"? (yes no didn't say) 27
28. Did Mercury say, "You are a dishonest man. These are not your sheep. Now I will take away your own sheep"? (yes no didn't say) 28
29. Did the shepherd beg Mercury to forgive him? (yes no didn't say) 29
30. Did the shepherd ever find his sheep? (yes no didn't say) 30

Have you heard this story before? (yes no)

Score.....

Form 2

STANDARDIZED TESTS—SILENT READING

Class Record Sheet

City_____ School_____ Grade_____

Teacher_____ Date_____ 191____

Rate Score		Comprehension Score	
Interval	Number of Pupils	Interval	Number of Pupils
Above 160			
151 to 160			
141 to 150			
131 to 140			
121 to 130		80 & above	
116 to 120		70 to 79.9	
111 to 115		60 to 69.9	
106 to 110		50 to 59.9	
101 to 105		45 to 49.9	
96 to 100		40 to 44.9	
91 to 95		35 to 39.9	
86 to 90		30 to 34.9	
81 to 85		27 to 29.9	
76 to 80		24 to 26.9	
71 to 75		21 to 23.9	
66 to 70		18 to 20.9	
61 to 65		15 to 17.9	
56 to 60		13 to 14.9	
51 to 55		11 to 12.9	
46 to 50		9 to 10.9	
41 to 45		7 to 8.9	
36 to 40		5 to 6.9	
31 to 35		4 to 4.9	
26 to 30		3 to 3.9	
21 to 25		2 to 2.9	
16 to 20		1 to 1.9	
Below 15		0 to .9	
Total		Total	
Median		Median	

Instructions for Making the Distribution of Pupils' Scores, and for Finding the Median Score.

1. The teacher must be careful that her papers are grouped correctly by classes. If she has but one grade of pupils, say 5th grade, or but two divisions of one grade, say 5th A and 5th B, then her papers are all grouped together and but one "distribution" made. If, however, she has parts of two or more grades, say part 5th and part 6th, she must make two or more piles of papers, one for each grade.
2. Arrange the children's papers for any class group in order of the comprehension scores, the lowest score on top.
3. To make the distribution called for, count the number of papers whose scores fall within the successive groups listed. For instance, if the lowest score is 3.5, the next lowest 5.7, the next 7.1, 7.8, 8.3, and so on, you will put "1" in the group marked "between 3 and 3.9;" "2" in the group marked "between 5 and 6.9," "3" in the group marked "between 7 and 8.9," and so on until the whole number of scores are recorded. The sum of these numbers must equal the number of children taking the test.
4. The median score is the score on the middle paper in the pile of papers arranged according to size of scores. If there are 35 papers, the median score is the score on the 18th paper. If there are 36 papers, the median score is half way between the score on the 18th paper and the score on the 19th paper.
5. Repeat 2, 3 and 4, for the rate scores.

(This record sheet is to be returned to the Bureau of Educational Measurements and Standards, Kansas State Normal School, Emporia, Kan. A duplicate may be retained by the teacher. If needed, additional copies of this record sheet will be sent free).

Every paper is graded so that it represents the number of words read per minute when reading carefully, as in this test. The **comprehension score** represents a measure of the pupil's ability to understand or comprehend what he reads.

2 To find the **rate score,** find the sum of the rate values of all the exercises which the pupil has attempted. (The rate value is found at the left of the exercises). If the pupil has omitted an exercise, include its value in the sum because the pupil probably read it.

3 Write the rate score in the upper right hand corner of the front page in the place provided for that purpose.

4 In finding the **comprehension score** every exercise is counted as either wholly right or wholly wrong. The correct answers are given below. Where the pupil's answer is not correct, cross out the comprehension value of the exercise. (The comprehension value is printed at the right of the exercise).

5 Add the comprehension values of the exercises answered correctly. This sum is the pupil's comprehension score.

6 Write the comprehension score in the upper right hand corner of the front page in the place provided for it.

CORRECT ANSWERS FOR THE EXERCISES

If the pupil is asked to underline a word, the word must be underlined and not have a circle drawn around it or a check mark placed after it, in order for the exercises to be counted as correct. If the pupil is asked to draw a line around a word the word must have a line drawn around it in order for the answer to be counted as correct.

In certain of the exercises, no directions are given for indicating the word and any kind of an indication, a line under the word, a line around the word or a check mark is counted as correct.

TEST I FORM II

1. A line under farmyard.
2. Yes.
3. Blue.
4. On the gate.
5. In the country.
6. Pencil.
7. A line under dog.
8. Mother.
9. Two.
10. A line under autumn.
11. A line under gold.
12. Germany.
13. Bed.
14. A line around fall.
15. A line under insects.

TEST II FORM II

1. Four feet or about four feet.
2. No.
3. No.
4. England.
5. A line under motion.
6. A line under productive.
7. A line under ice.
8. A line under shadow.
9. A line under nature.
10. A line under sad.
11. Man's ingratitude or ingratitude.
12. A line under desert.
13. A line under drouth.

TEST III FORM II

1. A line under air.
2. A line under steam.
3. A line under prey.
4. A line under Italy.
5. A line under bravest.
6. A line under monotony.
7. A line around cold.
8. More.
9. A line under stock.
10. Lives.
11. (It closed tightly).
12. Knowledge.

STANDARDS

Grade	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Pupils	2050	2040	1976	1972	1328	1295	233	191	167	90
Rate	44	65	86	84	98	102	79	83	87	87
Comprehension	5.2	10.6	16.5	19.4	22.1	25.7	20.0	23.8	25.4	26.5

No. 1

Rate Value 9 | Comprehension Value 1.1

The little red hen was in the farmyard with her chickens, when she found a grain of wheat. "Who will plant this wheat?" she said.

Draw a line under the word which tells where the little red hen was.

barn chicken house feed bin farmyard

No. 2

Rate Value 9 | Comprehension Value 1.1

Nowhere in the world do the children have so many good times as in Japan. They are allowed to play anywhere, and there are all sorts of toys and games for their amusement.

Are the children of Japan happy? Answer with "Yes" or "No."

_____

No. 3

Rate Value 6 | Comprehension Value 1.3

I have red, yellow and blue flowers in my hand. If I place the red and yellow flowers on the chair, which color do I still have in my hand?

_____

No. 4

Rate Value 7 | Comprehension Value 1.4

A donkey, a cat, and a dog went for a walk. After a long time they came to a farmyard. A rooster stood on the gate, crowing and screaming.

Where was the rooster?

_____

No. 5

Rate Value 5 | Comprehension Value 1.4

Ruth and Frank were two little children who lived in the country. They were happy, healthy little people.

Where did Ruth and Frank live?

_____

No. 6

Rate Value 5 | Comprehension Value 1.5

The teacher told James to buy a book, pencil, tablet and eraser. He bought the book, tablet and eraser, but forgot the other.

Which did he forget?

_____

No. 7

Rate Value 11 | Comprehension Value 1.7

The door opened and in came a dog. The mice jumped off the table and ran into the hole in the floor. The poor little Country Mouse was so frightened!

What frightened the mice?

Draw a line under the word that tells what it was that frightened the mice.

boy woman cat trap man dog wind

No. 8

Rate Value 9 | Comprehension Value 1.8

The wolf put his paws on the window. When the goslings saw the white feet they thought it was their mother. They opened the door, and in came the wolf.

What did the goslings think it was at the door?

wolf father chicken dog mother

No. 9

Rate Value 8 | Comprehension Value 2.3

Here the conversation was interrupted by the approach of a small one-horse buggy to the inn. A well-dressed, gentlemanly man sat on the seat, with a colored servant driving.

How many people does it tell us were in the buggy?

_____

No. 10

Rate Value 7 | Comprehension Value 2.1

"The golden rod is yellow,
The corn is turning brown,
The trees in apple orchards
With fruit are bending down."

Draw a line under the season of the year you think is pictured in this stanza.

autumn spring winter summer

No. 11

Rate Value 14 | Comprehension Value 2.4

The western part of the United States was not settled till much later than the eastern. The discovery of gold quickly drew many settlers to California; and, as the search for the precious metal was carried farther, the entire West soon became explored and settled.

Draw a line under the one word in the paragraph above that tells what it was that caused the western part of the United States to be settled.

No. 12

Rate Value 5 | Comprehension Value 2.5

Eggs and chickens are seen at Easter time in many countries, but the hare is more often seen in Germany than in any other country.

In what country do they have the hare at Easter?

_____

No. 13

Rate Value 8 | Comprehension Value 2.6

In one corner of the cabin stood a bed, covered neatly with a snowy spread; and by the side of it was a piece of carpeting, of some considerable size.

What was it that stood in one corner of the room?

_____

No. 14

Rate Value 10 | Comprehension Value 2.8

On the ground the apples lie
In piles like jewels shining.
And redder still on old stone walls
Are leaves of woodbine twining.

What time of the year is pictured? If spring, draw a line under "winter." If not, draw a line around the right season.

spring summer fall winter

No. 15

Rate Value 10 | Comprehension Value 3.5

If we had no more birds in the summer than we have in winter, we should suffer very much from insects. We could not raise fruit, vegetables or grain, for the insects would eat it all.

Draw a line under the word that tells what the birds destroy.

winter fruit grain insects summer

TEST 1
Form 2

State Normal School
EMPORIA, KANSAS
Bureau of Educational Measurements and Standards

Rate Score_____
Comprehension Score_____

Standardized Silent Reading Test

Devised by Walter S. Monroe

For
Grades 3, 4 and 5

City_____ State_____ Date_____

Pupil's Name_____ Age_____ Grade_____

School_____ Teacher_____

Directions for Giving the Test

After telling the children not to open the papers, ask the children on the front seats to distribute the papers, placing one upon the desk of each pupil in the class. Have each child fill in the blank space at the top of this page. Then make clear the following:

Instructions to Be Read by Teacher and Pupils Together

This brief test is given to see how quickly and accurately pupils can read silently. To show what sort of test it is, let us read this:

> I am a little dark-skinned girl. I wear a slip of brown buckskin and a pair of soft moccasins. I live in a wigwam. What kind of girl do you think I am?
>
> Chinese French Indian African Eskimo

The answer to this exercise is "Indian," and it is to be indicated by drawing a line around the word. The test consists of a number of exercises like this one. In some of the exercises you are told to draw a line around the word which is the right answer, or to mark it in some other way, and in some you are to write out your answer. If an exercise is wrong it will not count, so it is wise to study each one carefully until you know exactly what you are asked to do. The number of exercises which you can finish thus in five minutes will make your score, so do them as fast as you can, being sure to do them right. Stop at once when time is called. Do not open the papers until told, so that all may begin at the same time.

The teacher should then be sure that each pupil has a good pencil or pen. Note the minute and second by the watch and say, BEGIN.

ALLOW EXACTLY FIVE MINUTES

Answer no questions of the pupils which arise from not understanding what to do with any given exercise.

When time is up say STOP and then collect the papers at once.

No. 1

Mrs. Bird was a timid, blushing little woman about four feet in height, and with mild blue eyes, and a peachblow complexion, and the gentlest, sweetest voice in the world.

How tall was Mrs. Bird?

No. 2

Carbon dioxide is injurious to people. Plants give off carbon dioxide at night and take it up in the day-time.

Is it a good plan to have plants in the room where you sleep?

No. 3

Everyone hates a tattler. The tattler is the object of disgrace on any playground. But everyone respects a truth-teller when wrong has been done. A little girl of nine was brought into court as a witness to tell all she knew of a crime that had been committed.

Will she be disgraced if she tells what she knows? Answer "Yes" or "No."

No. 4

England is the southern and Scotland is the northern part of the island called Great Britain. England is larger than Scotland, and the land is much richer, and produces better crops. Scotland is full of hills and wilderness, which bear no corn, and afford but little food for sheep or cattle.

From reading the above paragraph in which country would you think there would be the most people?

England Scotland

No. 5

The caravan, stretched out upon the desert, was very picturesque; in motion, however, it was like a lazy serpent. By and by its stubborn dragging became intolerably irksome to Balthasar, patient as he was.

Place a line under the word which tells in what respect the caravan resembled a serpent.

color length motion size

No. 6

It was the garden-land of Antioch, with not a foot lost to labor. Even the hedges, besides the lure of shade, offered passers-by sweet promises of wine and clusters of purple grapes. Over melon patches, and through apricot and fig tree groves, and groves of oranges and limes, the whitewashed houses of the farmers were seen.

Draw a line under the word given below that tells what kind of land this was.

barren hilly productive infertile desert

No. 7

Down swept the chill wind from the mountain peak,
From the snow five thousand summers old;
It carried a shiver everywhere
From the unleafed boughs and pastures bare;
The little brook heard it and built a roof
'Neath which he could house him winter-proof;
All night by the white stars' frosty gleams
He groined his arches and matched his beams.

Draw a line under the word that you think the brook might build a roof of.

shingles paper grass ice wood

No. 8

Judah walked to the pilot's quarter. So absorbed was he in thought that he scarcely noticed the shores of the river, which were surpassingly beautiful, with orchards of fruits and vines.

If he is interested in the beauties around him, put a line under beautiful; if these beauties have no interest for him, put a line under shadow.

beautiful shadow

No. 9

Her couch was dressed with here and there some winter berries and green leaves, gathered in a spot she had been used to favor. "When I die, put near me something that has loved the light, and had the sky above it always." Those were her last words.

Draw a line under the word that names what the girl had loved most.

pretty clothes nature money candy to play

Comprehension Value 2.0 | Rate Value 19
Comprehension Value 2.1
Comprehension Value 2.7 | Rate Value 16
Comprehension Value 2.8 | Rate Value 12
Comprehension Value 3.2 | Rate Value 14
Comprehension Value 3.3
Comprehension Value 3.7
Comprehension Value 3.7
Comprehension Value 3.8

Rate Value 18

Comprehension Value 4.0

No. 10

As a race, the Indians have withered from the land. Their arrows are broken, their council-five has long since gone out on the shore, and their war cry is fading to the untrodden West. Slowly and sadly they climb the distant mountains, and read their doom in the setting sun. They must soon hear the roar of the last wave which will settle over them forever.

Draw a line under the word which you think tells best how the Indians feel.

happy angry excited sad tired

Rate Value 8

Comprehension Value 4.1

No. 11

Blow, blow, thou winter wind,
Thou art not so unkind
As man's ingratitude;
Thy tooth is not so keen,
Because thou are not seen
Although thy breath be rude.

In the above paragraph with what is the wind compared?

Rate Value 11

Comprehension Value 4.6

No. 12

In front the purple mountains were rising up, a distant wall. Cool snow gleamed upon the summits. Our horses suffered bitterly for water. Five hours we had ridden through all that arid waste without a pause.

Draw a line under the word below that tells what kind of a country these people had been riding through.

mountainous swampy desert forest

Rate Value 10

Comprehension Value 4.7

No. 13

Tracking was very difficult. As there was total absence of rain, it was next to impossible to distinguish the tracks of two-days' date from those most recent upon the hard and parched soil.

Draw a line under the word below that tells what it was that made tracking difficult.

mud snow drouth rocks grass

TEST II
Form 2

State Normal School
EMPORIA, KANSAS
Bureau of Educational Measurements and Standards

Rate Score .....
Comprehension Score .....

Standardized Silent Reading Test

Devised by Walter S. Monroe

For
Grades 6, 7 and 8

City _____ State _____ Date _____

Pupil's Name _____ Age _____ Grade _____

School _____ Teacher _____

Directions for Giving the Test

After telling the children not to open the papers, ask the children on the front seats to distribute the papers, placing one upon the desk of each pupil in the class. Have each child fill in the blank space at the top of this page. Then make clear the following:

Instructions to Be Read by Teacher and Pupils Together

This brief test is given to see how quickly and accurately pupils can read silently. To show what sort of test it is, let us read this:

> I am a little dark-skinned girl. I wear a slip of brown buckskin and a pair of soft moccasins. I live in a wigwam. What kind of girl do you think I am?
> Chinese French Indian African Eskimo

The answer to this exercise is "Indian," and it is to be indicated by drawing a line around the word. The test consists of a number of exercises like this one. In some of the exercises you are told to draw a line around the word which is the right answer, or to mark it in some other way, and in some you are to write out your answer. If an exercise is wrong it will not count, so it is wise to study each one carefully until you know exactly what you are asked to do. The number of exercises which you can finish thus in five minutes will make your score, so do them as fast as you can, being sure to do them right. Stop at once when time is called. Do not open the papers until told, so that all may begin at the same time.

The teacher should then be sure that each pupil has a good pencil or pen. Note the minute and second by the watch, and say, BEGIN.

ALLOW EXACTLY FIVE MINUTES

Answer no questions of the pupils which arise from not understanding what to do with any given exercise.

When time is up say STOP and then collect the papers at once.

ate
alue
9

No. 1

Smoke is lighter than air. Too much smoke in the atmosphere will suffocate a person. John is in a smoke-filled room and cannot get out. If he should stand, underline smoke. If he should lie on the floor, underline air.

smoke room air atmosphere

Compre-
hension
Value
3.5

Rate
Value
16

ate
alue
8

No. 2

Cold condenses vapor. The windows are covered on the inside with steam. If the air in the room is warmer than the air outdoors, underline steam; if it is not as warm, underline cold.

steam outdoors cold vapor

Compre-
hension
Value
3.6

Rate
Value
15

ate
alue
8

No. 3

All birds of prey have hooked bills. Robins, sparrows and pigeons do not have hooked bills. The eagle, hawk and owl have hooked bills.

Underline the word above that tells what kind of a bird an owl is.

Compre-
hension
Value
4.0

Rate
Value
11

Rate
Value
10

No. 4

Many different things are made in Italy. Among the manufacturing industries are glass work, lace-making, the making of statuary, wood carving, coral carving and straw plaiting.

Does this tell you that these Italians are artistic?

If so, underscore the word Italy; if not, underscore the word manufacturing.

Italy manufacturing

Compre-
hension
Value
4.4

Rate
Value
12

No. 5

William Wallace was the best soldier and bravest man in Scotland, and the most fit to be placed in command at the critical time when the King of England came against them with strong forces. Yet the nobles of Scotland envied him this important place, because he was not a man born in high rank, or enjoying a large estate.

If you think Wallace was popular in his country, underscore the word best; if not, underscore the word bravest.

best bravest

Compre-
hension
Value
4.8

No. 6

The expressionless uniform twenty houses, all to be knocked at and rung at in the same form, all approachable by the same dull steps, all fenced off by the same pattern of railing, all with the same fire escapes, and everything without exception to be taken at a high valuation.

After reading the above paragraph, underline the word that tells what you think would be the general effect of the street.

variety attractiveness monotony beauty

Compre-
hension
Value
5.4

No. 7

Polar bears are better satisfied in the cold countries. There is a bear pacing from one side of his cage to the other. If you think his cage is in a cold place, draw a line around satisfied. If you think his cage is in a warm place, draw a line around cold.

satisfied bear cold cage

Compre-
hension
Value
5.6

No. 8

In freezing ice cream we use three measures of ice to one of salt. If more salt is used the mixture cools more quickly and the cream will be more coarsely grained. Ices and sherbets should not be as finely grained as ice cream. Should we use more or less salt in freezing ices than in freezing ice cream?

Compre-
hension
Value
5.8

No. 9

Rate Value 17

Darwin's theory of descent is that all forms of life now existing upon the earth have sprung from a few simple primitive types. This theory necessitates the belief, not that man sprang from any existing species of apes, but rather that the apes and man have sprung from some common stock.

If by this theory Darwin means that we were at one time apes, underline the word life. If he means that we did not spring from a type of apes, underline stock.

life stock ape man

No. 10

Rate Value 16

"We have come to dedicate a portion of that field, as a final resting place for those who here gave their lives that that nation might live. But in a larger sense, we cannot dedicate this ground. It is for us, the living, rather, to be dedicated here to the unfinished work, to the great task remaining before us."

The above paragraph is taken from Lincoln's Gettysburg address. What was it he thought we should dedicate?

home land lives money monument

No. 11

Rate Value 12

The merchant's right hand lay outside the robe—a long, thin hand, articulate to deformity with suffering. It closed tightly; otherwise there was not the slightest expression of feeling of any kind on his part; nothing to warrant any inference of surprise or interest.

Enclose in parenthesis the three words that indicate surprise on the part of the merchant.

No. 12

Rate Value 11

The knowledge we gain from much sympathy with others, passing through trials, is but vaguely understood; strangely enough, it enables us, among other things, to merge our identity into theirs often so completely that their sorrows and their delights become our own.

What is it that causes the sorrows and delights of others to become our own?

Comprehension Value 7.6

Comprehension Value 8.9

Comprehension Value 9.2

Comprehension Value 10.0

TEST III
Form 2

State Normal School
EMPORIA, KANSAS
Bureau of Educational Measurements and Standards

Rate Score .....
Comprehension Score .....

Standardized Silent Reading Test

Devised by Walter S. Monroe

For
Grades 9, 10, 11 and 12

City _____ State _____ Date _____

Pupil's Name _____ Age _____ Grade _____

School _____ Teacher _____

Directions for Giving the Test

After telling the children not to open the papers, ask the children on the front seats to distribute the papers, placing one upon the desk of each pupil in the class. Have each child fill in the blank space at the top of this page. Then make clear the following:

Instructions to Be Read by Teacher and Pupils Together

This brief test is given to see how quickly and accurately pupils can read silently. To show what sort of test it is, let us read this:

> I am a little dark-skinned girl. I wear a slip of brown buckskin and a pair of soft moccasins. I live in a wigwam. What kind of girl do you think I am?
> Chinese French Indian African Eskimo

The answer to this exercise is "Indian," and it is to be indicated by drawing a line around the word. The test consists of a number of exercises like this one. In some of the exercises you are told to draw a line around the word which is the right answer, or to mark it in some other way, and in some you are to write out your answer. If an exercise is wrong it will not count, so it is wise to study each one carefully until you know exactly what you are asked to do. The number of exercises which you can finish thus in five minutes will make your score, so do them as fast as you can, being sure to do them right. Stop at once when time is called. Do not open the papers until told, so that all may begin at the same time.

The teacher should then be sure that each pupil has a good pencil or pen. Note the minute and second by the watch, and say, BEGIN.

ALLOW EXACTLY FIVE MINUTES

Answer no questions of the pupils which arise from not understanding what to do with any given exercise.

When time is up say STOP and then collect the papers at once.

BUREAU OF EDUCATIONAL MEASUREMENTS AND STANDARDS

KANSAS STATE NORMAL SCHOOL

Class Record Sheet

Standardized Reasoning Tests in Arithmetic

Devised by WALTER S. MONROE

State..... City..... Building.....

Teacher..... Grade..... Date.....

TABLE No. 1 Rate Scores		TABLE No. 2 Scores for Correct Principle		TABLE No. 3 Scores for Correct Answers	
Score	Number of Pupils Making Score	Score	Number of Pupils Making Score	Score	Number of Pupils Making Score
43 or 44		43 or 44		43 or 44	
41 or 42		41 or 42		41 or 42	
39 or 40		39 or 40		39 or 40	
37 or 38		37 or 38		37 or 38	
35 or 36		35 or 36		35 or 36	
33 or 34		33 or 34		33 or 34	
31 or 32		31 or 32		31 or 32	
29 or 30		29 or 30		29 or 30	
27 or 28		27 or 28		27 or 28	
25 or 26		25 or 26		25 or 26	
23 or 24		23 or 24		23 or 24	
21 or 22		21 or 22		21 or 22	
19 or 20		19 or 20		19 or 20	
17 or 18		17 or 18		17 or 18	
15 or 16		15 or 16		15 or 16	
13 or 14		13 or 14		13 or 14	
11 or 12		11 or 12		11 or 12	
9 or 10		9 or 10		9 or 10	
7 or 8		7 or 8		7 or 8	
5 or 6		5 or 6		5 or 6	
3 or 4		3 or 4		3 or 4	
1 or 2		1 or 2		1 or 2	
0		0		0	
Total....		Total....		Total....	
Median Score...		Median Score...		Median Score...	

When this Class Record Sheet is filled out, send it to the Bureau of Educational Measurements and Standards, Kansas State Normal school, Emporia, Kansas.

DIRECTIONS FOR SCORING TEST PAPERS.

1. Each problem is marked for "correct principle" (P) and for "correct answer" (C).
2. Cross the values for those problems which are incorrect or not solved.
3. Find the sum of the "P" values of the problems correct in principle. This sum is the pupil's score for correct principle.
4. Find the sum of the "C" values of those problems having correct answers. This sum is the pupil's score for correct answer.
5. If a rate score is desired it is the sum of the "P" values of those problems done correctly in the specified time limit.
6. Record these scores in the upper right-hand corner of the first page of the test paper.
7. Below are given some general directions for scoring the test papers. Study them carefully before beginning to score the papers.

GENERAL DIRECTIONS.

1. In order that a solution may be counted as correct in principle the correct operation must be performed upon the correct numbers. For example if a problem requires division, the right number must be used as a divisor.
2. A solution is counted as correct in principle when the operation performed is based upon the true relations of the numbers used.
3. The fact that a pupil does not use the shortest method is not to be counted against him. Our thinking is psychological. It is only necessary that each operation in the solution be based upon the true relations of the quantities.
4. Errors in denominate numbers (such as the number of months in a year, number of pounds in a ton, number of square feet in a square yard, etc.) do not affect the correctness of the principle.
5. No credit is given for a problem partially correct in principle. In a two-step problem, no credit is given unless the pupil at least has definitely indicated the last operation.
6. Answers are counted as correct only when the answer is numerically correct. If it contains a fraction it must be reduced to its lowest terms. Answers need not be labeled, that is, if the answer is square feet it is not necessary that it be labeled as such.
7. If a solution is incorrect in principle, the answer is also marked incorrect.
8. If a pupil solves a problem correctly and then continues with additional operations which are not called for, his solution becomes incorrect in both principle and answer.

CORRECT SOLUTION AND ANSWERS

Test I. Form 1.

If multiplier and multiplicand are given in reverse order accept as correct in principle. If answer is pointed off as $1.56, the problem is correct in principle but has an incorrect answer.

1. $2 \times 78 = \$156$.

2. $\$275 - 70 = \$205$. If answer is pointed off as $2.05 the problem is correct in principle but has an incorrect answer.

3. $1344 \div 32 = 42$ bus.

4. $.06 \times 130 = \$7.80$; $\$7.80 \times 864 = \$6739.20$; or $130 \times 864 = 112{,}320$; $.06 \times 112{,}320 = \$6739.20$. If .06 is written as 6¢ count as correct. The answer must be pointed off to be counted as correct.

5. $20 + 19 = 39$.

6. $95 - 75 = 20$. Some pupils will write $\frac{75}{95}$ which should be $\frac{95}{20}$ counted correct in both principle and answer. Also count correct $\frac{95}{20}$ $\frac{20}{75}$

7. $72060 \div 60 = 1201$; $\$.87 \times 1201 = \$1044.87$.

8. Accept as correct any one of the following:
   (1) $14 \times 2 = 28$; $14 \times 2 = 28$; $28 + 28 = 56$; $\$.03 \times 56 = \$1.68$.
   (2) $14 \times 4 = 56$; $\$.03 \times 56 = \$1.68$.
   (3) $14 + 14 + 14 + 14 = 56$; $\$.03 \times 56 = \$1.68$.
   (4) $\$.03 \times 14 = 42$; $.42 \times 4 = \$1.68$.

9. 3804 lbs. $\times 6 = 22{,}824$ lbs.

10. $\$60{,}000 - \$240 = \$59{,}760$. Count as correct in principle any subtraction of $240 from $60,000. The 80 acres has nothing to do with the solution.

11. $3 \times 2 \times 2 = 12$ cu. ft.

12. $\$15.75 \div 3 = \$5.25$.

13. $.20 \times 48 = \$9.60$; $\$9.60 \div .24 = 40$ lbs. This may also be solved by proportion.

14. $\$35 \times 12 = \$420$. If the pupil does not know the number of months in a year and uses some other number as 7, 9, 15 count as correct in principle.

15. $12 + 20 + 8 + 14 + 32 = 86$ cents. $\$2.00 - .86 = \$1.14$.

Test II. Form 1.

1. $\frac{3}{4} + \frac{1}{8} = \frac{7}{8}$ yds.

2. $10 - 4\ 3/8 = 5\ 5/8$ yds.

3. $31.5 \times 63 = 1984.5$ gal.

4. $6 \div 3/8 = 6 \times 8/3 = 16$ days.

5. $\$1.90 \div .20 = .095$; $.095 \times 10 = .95$ or $\$1.90 \div 2 = \$.95$.

6. Addition of all items. Ans. 6.575.

7. $196 \div 3/5 = 196 \times 5/3 = 326\ 2/3$ loaves.

8. $\$12.85 \times 12 = \$154.20$; $\$154.20 \times 2\frac{3}{4} = \$424.05$ or $2\frac{3}{4} \times 12 = 33$; $\$12.85 \times 33 = \$424.05$.

9. $\$6.50 + 12.25 + 5.20 + 12.00 = \$35.95$. All items must be added in order to be counted correct in principle.

10. $1\frac{3}{4} \times 12 = 21$ cents. Count as correct if these quantities are expressed in decimal form.

11. $\$12.50 + 6.75 + .42 + 17.30 + 9.50 + 42.75 + 174.30 = \$263.52$. $\$263.52 - 75.82 = \$187.70$.

12. $2\ 7/8 \times 12 = 34\frac{1}{2}$ yds.; $.12\frac{1}{2} \times 34\frac{1}{2} = \$4.31\frac{1}{4}$ or $4 5/16, or $.12\frac{1}{2} \times 2\ 7/8 = .35\ 15/16$; $.35\ 15/16 \times 12 = \$4.31\frac{1}{4}$. It is not necessary that the ¼ be written in the answer.

13. $7{,}850 \div 2{,}000 = 3\ 37/40$; $\$3.90 \times 3\ 37/40 = \$15.31$.

14. $\$35.75 - \$28.50 = \$7.25$.

15. $500 \div 40 = 12\frac{1}{2}$ bu.

Test III. Form 1.

1. $\$56 \times 12\frac{1}{2} = \$7$ or $\$56 \times 1/8 = \$7$.

2. $\$192.50 \div \$1750 = .11$ or 11%.

3. $\$2.25 \times .20 = .45$; $\$2.25 + 45 = \$2.70$ or 20% of $2.25 = .45$; or 1/5 of $2.25 = .45$.

4. $1.00 + .05 = 1.05$; $\$180 \div 1.05 = \$171\ 3/7$, or $171.43, or
   105% = $180.
   1% = 1 5/7.
   100 = 171.3/7 or $171.43.

5. $\$187.50 \div 1250 = .15$ or 15%.

6. $3{,}125 \times .438 = 1368.75$ tons of iron.

7. $\$12{,}480 \div 1000 = 12{,}480$; $\$13.50 \times 12.48 = \$168.48$. It is necessary that $12,480 be divided by 1000 but this may be done simply by pointing off.

8. $12 \times .33\ 1/3 = 4$; $12 - 4 = 8$ or $1.00 - .33\ 1/3 = .66\ 2/3$;
   $12 \times .66\ 2/3 = 8$. The problem may also be solved using .33 1/3 expressed as 1/3. However, no credit is given unless either 4 or the percent is subtracted.

9. $\$640 \times .05 = \$32$. $\$32 \times 4 = \$128$. Any correct method of finding the interest is to be accepted.

10. $\$75{,}000 \times .07\frac{1}{2} = \$5{,}625$.

11. $1.00 - .40 = .60$. $.90 \div .60 = \$1.50$, price of the pocket book.
    Also 60% = .90.
    1% = .01½.
    100% = $1.50.

12. $356.4 \div 9 = 39.6$, average rate of train.

13. $\$1.50 \times .10 = \$.15$; $\$1.50 + .15 = \$1.65$, selling price; or $1.00 + 10 = 1.10$; $\$1.50 \times 1.10 = \$1.65$, selling price.

14. $\$167.40 \times .33\ 1/3 = \$55.80$, or
    $\$167.40 \times 1/3 = \$55.80$.

15. $\$3.00 \div .16\ 2/3 = \$18$ or $\$3.00 \div 1/6 = \$18$. or
    16 2/3% = $3.00.
    1% = .18.
    100% = $18.

RECORDING THE SCORES

After the test papers have been marked as directed above, the scores are to be recorded on the other side of this sheet. For recording the rate scores, sort the papers into piles according to the scores, as indicated by the grouping of scores in Table No. 1. That is, place in one pile those papers having scores of 5 or 6, in another those having scores of 7 or 8, and so on. Then record in the appropriate places in Table No. 1 the number of papers in each pile. A similar procedure is followed for recording the other two scores.

After the scores have been recorded, find the total of the numbers written in each column. The total should be the sum for all columns and should equal the number of pupils taking the test.

The median score of each table may be calculated from the distribution according to the usual directions for finding the median and which are given in several places. A simpler method when the number of scores is small is to arrange the papers in order according to the rate score, placing the one with the smallest score on the bottom. The score on the middle paper is the median score. If there are an even number of papers there will be no middle one. In such a case it is the average of the scores on the two middle papers. After the rate median is found, the papers must be arranged in order according to the correct principle score. This median score is found in the same way. Repeat this procedure for finding the median score for correct answers.

TENTATIVE STANDARDS

The standards given below were obtained from the scores made on a preliminary series of tests in which these problems occurred. They must, therefore, be considered as only tentative. As soon as a sufficient number of returns from these tests are received by the Bureau of Educational Measurements, and Standards, revised standards will be issued and sent to all who contribute their results.

Grade	IV	V	VI	VII	VIII
Correct Principle, "P"	12	20	15	21	18
Correct Answer, "C"	7	11	9	14	10

1. A cow that cost $56 was sold at a gain of 12½ per cent. What was the gain?

P=2

C=1

2. A man invested $1,750 and lost $192.50. What per cent did he lose?

P=2

C=1

3. The wages of the men in a certain factory are to be raised 20 per cent from their present scale. How much will a man get after the raise, who is getting $2.25 before the raise?

P=2

C=1

4. A hardware dealer sold a furnace for $180 at a gain of 5 per cent. What did the furnace cost him?

P=3

C=2

5. If a man saves $18.75 out of his salary of $1,250, what per cent does he save?

P=2

C=1

6. A boat carried 3,125 tons of iron ore. This ore will yield 43.8 per cent of iron. How many tons of iron in the cargo?

P=2

C=3

7. What is the tax on property assessed for $12,480, at $13.50 a thousand?

P=2

C=2

8. If 33⅓ per cent of the weight of meat is lost in shrinkage when cooked what ought a ham weighing 12 lbs. when raw to weigh when baked?

P=2

C=1

9. Find the interest at 5 per cent on $640 for 4 years.

P=2

C=1

10. A salesman sold $75,000 worth of goods one year. His commission was 7½ per cent of his sales. What did he earn?

P=2

C=2

11. Ellen bought a pocketbook for $0.90 just after Christmas. She paid 40 per cent less than was asked for it before Christmas. Find the price before Christmas.

P=3

C=1

---

12. A fast train runs from Chicago to a station 356.4 miles distant in exactly 9 hours. What is the average rate of the train?

P=1

C=1

---

13. Books that cost $1.50 wholesale were sold at a gain of 10 per cent. What was the selling price?

P=2

C=1

---

14. A dealer bought $167.40 worth of clocks and sold them at a profit of 33⅓ per cent. How much did he gain?

P=2

C=1

---

15 A clerk had his weekly wages increased $3, or 16⅔ per cent. What were his wages before the increase?

P=3

C=1

Test III

Form 1

WRITE PUPIL'S SCORES HERE	
Rate Score	
Correct Principle, "P," Score	
Correct Answer, "C," Score	

BUREAU OF EDUCATIONAL MEASUREMENTS AND STANDARDS

KANSAS STATE NORMAL SCHOOL

STANDARDIZED REASONING TEST IN ARITHMETIC

Devised by Walter S. Monroe

For Grades 6 and 7

City_____ State_____ Date_____

Pupil's Name_____ Age_____ Grade_____

School_____ Teacher_____

Directions for Giving the Test

The teacher should see that each pupil is provided with a well-sharpened pencil and that all books and papers have been removed from the desks. After telling the children not to begin work until directed to do so, have those on the front seats distribute the test papers, placing one upon the desk of each pupil in the class. Have each pupil fill in the blanks at the top of this page and then make clear the following directions:

"On the other pages of this folder there are printed a number of problems. You are to solve each problem in the blank space to the right. Solve the problems in the way that you have been taught. Arrange your work so that it will be easily understood in marking the papers, but you are not expected to copy it. Do not work on any other paper. Be sure to put down all of your work. Solve the problems in the order in which they are given. Work rapidly, but remember that a problem must be done correctly to count on your score. Ask any questions which you may have now, because you cannot ask them after you begin work."

Do not explain the statement of any problem. The purpose of the test is to find how well the pupils can understand the form of statement used in the problems.

This is not intended as a time test, but those who desire a rate score may do so by requiring each pupil to draw a line around the number of the problem he is working on at the end of 10 minutes. The pupils should then continue their work until they have completed the test. As soon as a pupil finishes collect his paper. Collect all papers at the end of 25 minutes.

Directions for scoring the test papers and for recording the scores are given on the class record sheet.

1. A girl having ¾ yd. of ribbon bought ⅛ yd. more. What part of a yard had she then?

P=2

C=1

2. A piece of ribbon 4⅜ yds. long is cut from a bolt containing 10 yds. How many yards are left?

P=2

C=2

3. There are 31.5 gallons in a barrel. How many gallons are there in 63 barrels?

P=2

C=2

4. If a horse eats ⅜ bushels of oats a day, how long will 6 bushels last?

P=3

C=2

5. When a 20-pound cheese is worth $1.90, how much will a 10-pound cheese cost?

P=1

C=1

6. Four loads of hay are to be put into a barn. The first load weighs 1.125 tons; the second, 1.75 tons; the third, 1.8 tons; the fourth, 1.9 tons. Find the weight of the four loads.

P=1

C=2

7. A baker used 3-5 lb. of flour to a loaf of bread. How many loaves could he make from a barrel (196 lbs.) of flour?

P=3

C=2

8. My telephone bill is $12.85 a month. At that rate how much should I pay in 2¾ years?

P=2

C=2

9. A man spends $6.50 for board, $12.25 for clothing, $5.20 for books, and had $12 left. How many dollars and cents had he at first?

P=1

C=2

10. A boy saves 1¾ cents on a picture by doing his own developing and printing. This makes a saving of how much on each dozen pictures?

P=2

C=1

Make out the following account for a day: Cash on hand, $174.30; Receipts, mdse, $12.50, $6.75, $0.42, $17.30, $9.50, $42.75; Expenses, Perry and Co., bill, $75.82.

P=3

C=3

12. Muslin is to be bought for 12 new curtains, each requiring 2⅞ yds. How much will the muslin cost at 12½ cents a yard?

P=3

C=3

13. A market man has 7,850 pounds of ice put into his refrigerator at one time. How much does it cost, at $3.90 a ton?

P=2

C=3

14. A man bought two suits of clothes, one costing $35.75, and the other $28.50. How much more did the one cost than the other?

P=1

C=1

15. A farmer raised 500 bushels of wheat on a field of 40 acres. What was the average yield per acre:

P=2

C=2

Test II
Form 1

WRITE PUPIL'S SCORES HERE	
Rate Score	
Correct Principle, "P," Score	
Correct Answer, "C," Score	

BUREAU OF EDUCATIONAL MEASUREMENTS AND STANDARDS
KANSAS STATE NORMAL SCHOOL

STANDARDIZED REASONING TEST IN ARITHMETIC

Devised by Walter S. Monroe

For Grades 6 and 7

City_____ State_____ Date_____

Pupil's Name_____ Age_____ Grade_____

School_____ Teacher_____

Directions for Giving the Test

The teacher should see that each pupil is provided with a well-sharpened pencil and that all books and papers have been removed from the desks. After telling the children not to begin work until directed to do so, have those on the front seats distribute the test papers, placing one upon the desk of each pupil in the class. Have each pupil fill in the blanks at the top of this page and then make clear the following directions:

"On the other pages of this folder there are printed a number of problems. You are to solve each problem in the blank space to the right. Solve the problems in the way that you have been taught. Arrange your work so that it will be easily understood in marking the papers, but you are not expected to copy it. Do not work on any other paper. Be sure to put down all of your work. Solve the problems in the order in which they are given. Work rapidly, but remember that a problem must be done correctly to count on your score. Ask any questions which you may have now, because you cannot ask them after you begin work."

Do not explain the statement of any problem. The purpose of the test is to find how well the pupils can understand the form of statement used in the problems.

This is not intended as a time test, but those who desire a rate score may do so by requiring each pupil to draw a line around the number of the problem he is working on at the end of 10 minutes. The pupils should then continue their work until they have completed the test. As soon as a pupil finishes collect his paper. Collect all papers at the end of 25 minutes.

Directions for scoring the test papers and for recording the scores are given on the class record sheet.

1. Mr. Black received $2 a yd. for broadcloth. He sold 78 yds. How much did he receive?

P=2

C=2

2. If a man has $275 in the bank and draws out $70 how much has he left in the bank?

P=2

C=2

3. Oats weigh 32 lbs. to a bushel. How many bushels are there in a load weighing 1344 lbs.?

P=3

C=2

4. Find the cost of 864 bags of coffee of 130 lbs. each at 6 cents per pound.

P=4

C=3

5. Mary worked 20 examples on Monday and 19 on Tuesday. How many did she work in the two days?

P=2

C=1

6. After traveling 75 miles, how far must I go to complete a trip of 95 miles?

P=2

C=1

7. A car contains 72,060 lbs. of wheat. How much is it worth at 87 cents a bushel?

P=4

C=3

8. At 3 cents per foot, what is the cost of sufficient picture molding to go around a room 14 ft. by 14 ft.?

P=4

C=2

9. How many pounds of hay are raised on 6 acres at 3,804 pounds to the acre?

P=2

C=2

10. A Kansas farmer bought 80 acres of cheap land for $240. Oil being found on his farm, he sold his land for $60,000. What was his profit?

P=3

C=2

11. Find the contents of a box 3 ft. long, 2 ft. wide and 2 ft. high.

P=4

C=1

---

12. Three boys buy a rowboat for $15.75, sharing the expense equally. Find how much each boy has to pay.

P=3

C=2

---

13. By selling butter at 24 cents per pound, a lady received enough money to buy 48 lbs. of coffee at 20 cents per pound. How many pounds of butter does she sell?

P=4

C=2

---

14. A house rents for $35 a month. This is how much a year?

P=2

C=2

---

15. Find the change from a two-dollar bill in paying the following amounts on packages to be sent by parcel post: 12 cents, 20 cents, 8 cents, 14 cents, 32 cents.

P=3

C=2

Test I

Form 1

WRITE PUPIL'S SCORES HERE	
Rate Score	
Correct Principle, "P," Score	
Correct Answer, "C," Score	

BUREAU OF EDUCATIONAL MEASUREMENTS AND STANDARDS

KANSAS STATE NORMAL SCHOOL

STANDARDIZED REASONING TEST IN ARITHMETIC

Devised by Walter S. Monroe

For Grades 4 and 5

City_____ State_____ Date_____

Pupil's Name_____ Age_____ Grade_____

School_____ Teacher_____

Directions for Giving the Test

The teacher should see that each pupil is provided with a well-sharpened pencil and that all books and papers have been removed from the desks. After telling the children not to begin work until directed to do so, have those on the front seats distribute the test papers, placing one upon the desk of each pupil in the class. Have each pupil fill in the blanks at the top of this page and then make clear the following directions:

"On the other pages of this folder there are printed a number of problems. You are to solve each problem in the blank space to the right. Solve the problems in the way that you have been taught. Arrange your work so that it will be easily understood in marking the papers, but you are not expected to copy it. Do not work on any other paper. Be sure to put down all of your work. Solve the problems in the order in which they are given. Work rapidly, but remember that a problem must be done correctly to count on your score. Ask any questions which you may have now, because you cannot ask them after you begin work."

Do not explain the statement of any problem. The purpose of the test is to find how well the pupils can understand the form of statement used in the problems.

This is not intended as a time test, but those who desire a rate score may do so by requiring each pupil to draw a line around the number of the problem he is working on at the end of 10 minutes. The pupils should then continue their work until they have completed the test. As soon as a pupil finishes collect his paper. Collect all papers at the end of 25 minutes.

Directions for scoring the test papers and for recording the scores are given on the class record sheet.

Score Sheet ---- Practical Oral Reading Test

City_____ State_____ School_____ Date_____

Grade Examined_____ Teacher_____

Age	PUPIL'S NAME	Words Miscalled	Words Put in	Words Left Ont	Transposed Words	No. Words Read	No. Mistakes	SCORE

INSTRUCTIONS

The score for each pupil is found by multiplying the per cent of words read correctly in the total number of words read, by the number of words read correctly. For example, as shown by the score of Ruth Brown: 160 is the number of words read correctly. 169 is the number of words read. Then 160 times 100, divided by 169 equals 95 per cent (count the nearest number in per cent); 95 times 160 equals 15200. The score of Ruth Brown is 15200.

After the scores are made, it is very easy of course to make comparisons among the individuals of a class and among classes in a school system. The median grade is the most satisfactory for a measure of the group. It may be found by arranging the scores in a column with the smallest first and then the next smallest and the next smallest, etc. If there are two or more with the same score, it should be set down but once—but in another column opposite—the number of pupils making each score should be shown. Add the "number of pupils" column, divide the sum by two and you will have one-half the total number of pupils in the class. One-half will be above and one-half below the median number, and the median number will be half way between the score which corresponds to the first pupil above the median and the first pupil below.

In the illustration which follows, the first pupil above the median has a score of 13,200—and the first below, 12,950. Half way between the two is 13,075, which is the median. If there were an odd number of pupils, say 31, in this example, the score standing opposite the 16th or middle pupil, would be the median score.

Illustration for a class of thirty pupils:

Individual Scores	No. of Pupils making the score
12,487	1
12,576	1
12,600	2
12,630	1
12,645	3
12,760	2
12,800	1
12,905	1
12,925	1
12,950	2
13,200	4
13,250	1
13,500	2
13,960	1
14,583	2
14,675	1
14,725	1
14,970	1
15,875	1
16,273	1
	30

Standards:

Note—Following are the medians made by about 200 children of each grade. No. I shows the results in Sept., and No. II in May. There are no "A" and "B" divisions.

Fall Medians

Grade	II.	III.	IV.	V.	VI.	VII.	VIII.
Test No. I.	5800	6425	9100	11808	12818	13440	14850
Test No. II:	9372	10446	12895	16400	14876	14688	16005

We will show revised standards from time to time, and these will be sent to all who send the results of the tests to E. D. Price, Enid, Okla.

SELECTIONS TO BE READ BY GRADE II.

Test No. 1.

Here we go on the river. What a pretty day 10
is! See the pretty little fish. The sun 19
hines on the fish. On and on we go. We go by the 32
orn, we go by the trees. Go, pretty boat, go. 42
)o you not like the boat? Do you not like to go 54
n the river? Shall we go to the woods? Do you 65
ike the woods? I do. I like the river in the 76
voods. The river runs by the trees. It runs by the 87
louse. It runs on to the green woods. The birds 97
ike the woods. The birds make nests here in the 107
rees. What pretty trees grow here! And here are 116
lowers. See, mother, see. There is a rabbit. 124
Little rabbit, do you like the woods? Do not run, 134
ittle rabbit. I have not a bow and arrows. 143

How do you do? Come and play with me. I have 154
my hoop. It is a pretty little hoop. You may roll it. 166
Run, run and make it roll. See my kitty. Kitty runs 177
with you. Kitty can not roll the hoop. Kitty can roll 188
your ball. I will roll the ball to kitty. Roll the 199
ball, little kitty. Roll the red ball to me. You 209
pretty kitty! 211

What is here on this flower? It has wings. 220
It is not a bird. It is like a flower with wings. 232
What is it? It is a pretty little butterfly. See 242
its pretty wings. 245

See what I have here. It is a little rabbit. 255
It can not run. It can not jump. 263

Test No. 2.

Look, there is a nest! The nest is in the tree. 11
Who is in the nest? I see a little bird in the nest. 24
See the bird fly over the tree! Fly to the ground, 35
little bird. Fly again to the tree. Sing a song to me. 47
Sing a song of joy. Sing to the little bird in the nest. 60
Tell the little bird to fly away. The little bird sings 71
a song. "See the little nest. See the little birds. I 82
tell the little birds to fly. I sing, Spring is come. 93
See the tree." 96

Fly to the tree, little birds. Fly with me to the 107
ground. See me fly. Come fly with me. Sing, little 117
birds. Sing a glad song. Sing, sing for joy. Little 127
bird, fly to the tree. In the tree is a little nest. 139
Fly to the nest. Some little birds are there. Fly to 150
the little birds. The bird is glad. He is glad the nest 162
is in the tree. He is glad the little birds are in the nest. 176
He is singing a song. He is singing to the little 187
birds in the nest. He sings, "The rain is over." 197

The spring is come. There is glad news. I sing 207
the glad news. Some little birds are in the nest. 217
See the little birds. What glad news! What a 226
song of joy! What joy in the tree! A little 236
squirrel runs over the ground. He runs to the 245
tree. In the tree is the squirrel's nest. Little 254
squirrels are in the nest. The squirrel is glad. 263

THE PRACTICAL ORAL READING TEST.

Devised by E. D. Price.

For Grade 2.

Instructions to be Given by Announcement to Pupils of the Class:

"We are going to become better acquainted with each of you by finding how rapidly and accurately you can read orally. Each of you will come into the office and read to us for one minute. Three of you will stand just outside the door of the office, and when we call, one will enter. When you come into the office, each will give his name and age. We will then show you where to read and you may begin at once. When each has finished reading he will come straight back to this room and the teacher will send another to take his place outside the office door.

"None of you need fear to come to the office for we are good friends and will take good care of you." (The examiners now go to the office and the teacher selects the first group of three and sends them at once to their waiting place.)

Directions for Giving the Test, and Scoring.

Two persons are required in giving the tests—one to make the announcement in the class rooms, and afterwards to direct each child how to proceed when he is handed the material to be read. He also keeps the time with the watch. The second person records the name of each pupil, follows the words of the reading by means of a copy, scoring the number of mistakes, and the number of words read when the command to stop is given. He should mark each mistake as it is made—on a piece of scratch paper. After the child has read, transfer the number of mistakes to the score sheet. The mistakes are marked on scratch paper like this: m - p - l - t; m standing for miscalled words; p, for words put in; l, for words left out; and t, for transposed words. It must be remembered that if a mistake is made and the child goes back and corrects it, the mark against him for that mistake shall be erased.

For daily class room use, where the teacher desires to show the progress of the pupil by months or for any period of time, it may be more convenient to simplify the manner of scoring. Mistakes may be marked without noting the type of error. Types of error need be noted only occasionally. The score would be the same with either method.

A very satisfactory way of keeping time with an ordinary watch is as follows: The instant the reader begins, place a dot with a fountain pen directly over the point of the second hand. When the point again comes under the dot, the time is up. Erase the dot before another reader begins.

All the children of a grade should read the same literature for the test.

There are two tests for each grade—number one to be given early in the school year, and number two, near the close. The pupils should never be drilled on the tests, nor permitted to see them until they read for the test.

Mistakes to be counted are: (1) Words miscalled. (2) Words put in. (3) Words left out. (4) Transposed words.

(a). Repetition of words is not considered a mistake as that counts against the reader in loss of time.

(b). Expression is not considered.

(c). A mistake corrected by the child is not counted against him.

Sample Score Sheet for Class

Score Sheet—Practical Reading Test.

CITY_____ STATE_____ SCHOOL_____ DATE_____

GRADE EXAMINED_____ TEACHER_____

Age	Pupil's Name	Miscalled words	Words put in	Words left out	Transposed words	No. words read	No. mistakes	Score
12	Ruth Brown	9	0	0	0	169	9	15200
11	Blanch Byrd	1	0	0	0	159	1	15642

SELECTIONS TO BE READ BY GRADE III.

Test No. I.

There was once a man who had several sons. 9
He was not happy. I will tell you why. The sons 20
were always quarreling. One day the father called 28
them. "Come here," he said, "and bring some little 37
sticks." So they all came around him. Each one 46
brought a little stick. Then the father put all 55
the sticks together. He tied them with a cord. 64
They made a big bundle. Then he passed the bundle 74
to his sons. "Break it in two," he said. The 84
sons tried as hard as they could. But they could 94
not break the bunch of sticks. Then the father 103
said, "Give it back to me." They gave him the bundle 114
and he took off the cord. Then he gave one stick 125
to each of his sons. "Can you break them now?" he 136
said. They could do it easily. "My sons," said 145
the father, "do not quarrel. If you quarrel, you 154
cannot stand together. Help each other. Keep 161
together like the bundle of sticks. If you do, 170
you will all be strong." 175

Be you to others kind and true 182
As you'd have others be to you. 189
Hearts like doors will ope with ease 196
To very, very little keys; 201
And don't forget that two of these 208
Are "Thank you, sir" and "If you please." 216
Politeness is to do or say 222
The kindest thing in the kindest way. 229
Kind hearts are the gardens; 234
Kind thoughts are the roots; 239
Kind words are the blossoms; 244
Kind deeds are the fruits. 249

Test No. II.

Tom and Jack were playing ball after 7
school one day, when their Uncle Frank 14
called them to him. 18
"Boys," he said, "my shop must be swept 26
every day. Which of you would like to do 35
it? I will give you a penny for each sweeping." 45
"Only a penny!" said Tom. "Who would 52
work for a penny?" 56
"I would," said Jack. "I'd like to." 63
So Jack swept the shop early every morning 71
before he went to school. 76
One Saturday morning Uncle Frank took 82
the boys to town with him. They went to a 92
store full of toys. 96
"What fine kites!" said Tom. "I wish I 104
had one." 106
"They cost only fifteen cents," said the man. 114
"I haven't a penny," replied Tom. 120
"Did you say they were fifteen cents?" 127
asked Jack, holding out a quarter. "I think 135
I will buy one." 139
"How did you get a quarter?" asked Tom. 147
"By sweeping the shop," replied Jack. "I 154
put the pennies into my bank. This morning 162
I opened it and took them out." 169
Jack bought a top and a large kite. Tom 178
kept still for a long time and then he said, 188
"A penny is good for something, after all, 196
isn't it?" 198
Hans was a little Dutch boy. Almost every day 207
his mother let him go to play with a little 217
girl named Gretel. 220
One day when Hans started for home, Gretel gave 229
him a needle to carry to his mother. As he 239
walked along, he saw a hay cart, so he stuck the 250
needle in the hay. 254

THE PRACTICAL ORAL READING TEST.

Devised by E. D. Price.

For Grade 3.

Instructions to be Given by Announcement to Pupils of the Class:

"We are going to become better acquainted with each of you by finding how rapidly and accurately you can read orally. Each of you will come into the office and read to us for one minute. Three of you will stand just outside the door of the office, and when we call, one will enter. When you come into the office, each will give his name and age. We will then show you where to read and you may begin at once. When each has finished reading he will come straight back to this room and the teacher will send another to take his place outside the office door.

"None of you need fear to come to the office for we are good friends and will take good care of you." (The examiners now go to the office and the teacher selects the first group of three and sends them at once to their waiting place.)

Directions for Giving the Test, and Scoring.

Two persons are required in giving the tests—one to make the announcement in the class rooms, and afterwards to direct each child how to proceed when he is handed the material to be read. He also keeps the time with the watch. The second person records the name of each pupil, follows the words of the reading by means of a copy, scoring the number of mistakes, and the number of words read when the command to stop is given. He should mark each mistake as it is made—on a piece of scratch paper. After the child has read, transfer the number of mistakes to the score sheet. The mistakes are marked on scratch paper like this: m - p - l - t; m standing for miscalled words; p, for words put in; l, for words left out; and t, for transposed words. It must be remembered that if a mistake is made and the child goes back and corrects it, the mark against him for that mistake shall be erased.

For daily class room use, where the teacher desires to show the progress of the pupil by months or for any period of time, it may be more convenient to simplify the manner of scoring. Mistakes may be marked without noting the type of error. Types of error need be noted only occasionally. The score would be the same with either method.

A very satisfactory way of keeping time with an ordinary watch is as follows: The instant the reader begins, place a dot with a fountain pen directly over the point of the second hand. When the point again comes under the dot, the time is up. Erase the dot before another reader begins.

All the children of a grade should read the same literature for the test.

There are two tests for each grade—number one to be given early in the school year, and number two, near the close. The pupils should never be drilled on the tests, nor permitted to see them until they read for the test.

Mistakes to be counted are: (1) Words miscalled. (2) Words put in. (3) Words left out. (4) Transposed words.

(a). Repetition of words is not considered a mistake as that counts against the reader in loss of time.

(b). Expression is not considered.

(c). A mistake corrected by the child is not counted against him.

Sample Score Sheet for Class

Score Sheet—Practical Reading Test.

CITY_____ STATE_____ SCHOOL_____ DATE_____

GRADE EXAMINED_____ TEACHER_____

Age	Pupil's Name	Miscalled words	Words put in	Words left out	Transposed words	No. words read	No. mistakes	Score
12	Ruth Brown	9	0	0	0	169	9	15200
11	Blanch Byrd	1	0	0	0	159	1	15642

SELECTIONS TO BE READ BY GRADE IV.

Test No. I.

One night Tom and his big brother came to Uncle 10
Jack and asked him to tell them a story before 20
they went to bed. This is the story he related 30
to them. 32
Dick Whittington was a very poor boy. He was a 42
fatherless and motherless boy. He had not a 50
friend in the world. He was a very strong boy 60
and willing to work. He had been told of a 70
large city called London. He thought that he 78
would be able to find work there. 85
So one spring morning he put all of his things 95
in a pack and started off for the city. He had 106
to walk all the way. Before he reached the city 116
he had spent his last shilling. He sat resting 125
on a pile of stones by the roadside. Just then 135
a drayman was driving by on his way to the city. 146
"Will you ride with me?" said the man. 154
"I shall be most happy to do so," was little 164
Dick's reply. So Dick Whittington had a ride 172
all of the way. When he reached London, he did 182
not have anything to do but walk around the big 192
city. He would walk up one street and then down 202
another. 203
The houses looked like big mansions to him. The 212
shop windows were beautiful sights. He had never 220
seen a big shop before, and the lights looked very 230
pretty indeed. Then it grew dark, as night was 239
coming on. He did not know where to go. He sat 250
down on the steps of a large house. It was not 261
long till he fell fast asleep. The owner of the 271
house upon coming home found him there. 278
"Come, wake up, my little man! Have you no place 288
to go Why are you asleep on my steps?" 297
Then little Dick told him how poor he was and that 308
he did not have a friend in the world. 317

Test No. II.

There was once a poor widow who lived in a little 11
cottage. In front of this cottage was a garden, 20
and in the garden stood two rosebushes. One of 29
these rosebushes bore white roses; the other bore 37
red roses. The poor widow also had two children, 46
who were so much like the roses that she called 56
one of them Snow-White and the other Rose-Red. 66
They were as good and happy and busy and cheerful 76
as any children in the world. Snow-white was more 86
quiet and gentle than Rose-Red. Rose-Red liked to 96
run about in the fields and meadows, gathering 104
flowers and chasing butterflies. Snow-White stayed 111
at home with her mother, helping her with the 120
housework, or reading to her if there was nothing 129
else to do. 132
The two children loved one another so much that 141
they always walked hand in hand when they went 150
out together. When Snow-White said, "we will never 159
leave one another," Rose-Red answered, "Never, so long 168
as we live," Then their mother would say, "What 177
one has, she must always share with the other." 186
They often ran about in the forest and gathered red 196
berries. The beasts never harmed them, and they 204
were not afraid. The little rabbit would take a 213
cabbage leaf out of their hands. The deer would eat 223
grass at their side. The stag leaped gayly by them. 233
The birds sat in the trees, singing all the songs 243
that they knew. No trouble ever came to them. If 253
they stayed late in the forest and night came on, 263
they would lie down together on the moss and sleep 273
until morning. Their mother knew this and was not 282
afraid. Once, when they had been all night in the 292
forest, and when the morning light had waked them, 301
they saw a beautiful child in a shining white dress, 311
sitting near their bed. The child got up and looked 321
at them kindly, but said nothing and went away into 331
the forest. 333

THE PRACTICAL ORAL READING TEST.

Devised by E. D. Price.

For Grade 4.

Instructions to be Given by Announcement to Pupils of the Class:

"We are going to become better acquainted with each of you by finding how rapidly and accurately you can read orally. Each of you will come into the office and read to us for one minute. Three of you will stand just outside the door of the office, and when we call, one will enter. When you come into the office, each will give his name and age. We will then show you where to read and you may begin at once. When each has finished reading he will come straight back to this room and the teacher will send another to take his place outside the office door.

"None of you need fear to come to the office for we are good friends and will take good care of you." (The examiners now go to the office and the teacher selects the first group of three and sends them at once to their waiting place.)

Directions for Giving the Test, and Scoring.

Two persons are required in giving the tests—one to make the announcement in the class rooms, and afterwards to direct each child how to proceed when he is handed the material to be read. He also keeps the time with the watch. The second person records the name of each pupil, follows the words of the reading by means of a copy, scoring the number of mistakes, and the number of words read when the command to stop is given. He should mark each mistake as it is made—on a piece of scratch paper. After the child has read, transfer the number of mistakes to the score sheet. The mistakes are marked on scratch paper like this: m - p - l - t; m standing for miscalled words; p, for words put in; l, for words left out; and t, for transposed words. It must be remembered that if a mistake is made and the child goes back and corrects it, the mark against him for that mistake shall be erased.

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A very satisfactory way of keeping time with an ordinary watch is as follows: The instant the reader begins, place a dot with a fountain pen directly over the point of the second hand. When the point again comes under the dot, the time is up. Erase the dot before another reader begins.

All the children of a grade should read the same literature for the test.

There are two tests for each grade—number one to be given early in the school year, and number two, near the close. The pupils should never be drilled on the tests, nor permitted to see them until they read for the test.

Mistakes to be counted are: (1) Words miscalled. (2) Words put in. (3) Words left out. (4) Transposed words.

(a). Repetition of words is not considered a mistake as that counts against the reader in loss of time.

(b). Expression is not considered.

(c). A mistake corrected by the child is not counted against him.

Sample Score Sheet for Class

Score Sheet—Practical Reading Test.

CITY_____ STATE_____ SCHOOL_____ DATE_____

GRADE EXAMINED_____ TEACHER_____

Age	Pupil's Name	Miscalled words	Words put in	Words left out	Transposed words	No. words read	No. mistakes	Score
12	Ruth Brown	9	0	0	0	169	9	15200
11	Blanch Byrd	1	0	0	0	159	1	15642

SELECTIONS TO BE READ BY GRADE V.

Test No. I.

It was bitterly cold; the sky gleamed with stars, and 10
not a breeze was stirring. 15
Bump! an old pot was thrown at the neighbor's house-doors. 26
Bang! Bang! went the gun; for they were welcoming the New Year. 38
It was New Year's Eve! The church clock was striking twelve. 49
The mail came lumbering up. The great carriage stopped 58
at the gate of the town. There were twelve persons in it; all 71
the places were taken. 75
'Hurrah, hurrah!" sang the people in the houses of the town, 86
for the New Year was being welcomed, and as the clock 97
struck they stood up with filled glass in hand, to drink 108
success to the new-comer. 113
"Happy New Year!" was the cry. "A pretty wife, plenty 123
of money, and no sorrow or care!" 130
This wish was passed round, and then glasses were clashed 140
together till they rang again, and in front of the town 151
gate the post-carriage stopped with the strange guests, the 161
twelve travelers. 163
And who were these strangers? Each of them had his 173
passport and his luggage with him; they even brought presents 183
for me and for you and for all the people of the little town. 197
Who are they? What did they want? and what did they bring 209
with them? 211
"Good-morning!" they cried to the Sentry at the town gate. 222
"Good-morning!" replied the Sentry, for the clock struck 231
twelve. 232
"Your name and profession?" the Sentry inquired of the 241
one who alighted first from the carriage. 248
"See yourself, in the passport," replied the man. "I am 258
myself!" And a capital fellow he looked, arrayed in a bearskin 269
and fur boots. "I am the man on whom many persons fix their 282
hopes. Come to me to-morrow, and I'll give you a New Year's 295
present." 296

Test No. II.

Long ago the King of the Fields and Forests walked 10
about on this earth. All nature, from the lowliest 19
plant by the roadside to the giant oak of the forest, 30
rejoiced in his presence, for the great King loved 39
and cared for them all. 44
In those days the stalks of wheat were very tall and 55
the grains of wheat grew up and down the stalks from 66
top to bottom. On every stalk there were hundreds of 76
plump, brown kernels. 79
One day, when the golden wheat was ready for the sickle 90
a mother and her son were walking through a wheat 101
field and came to a pool of water in the pathway. The 113
child amused himself by breaking off great stalks of 122
wheat and throwing them into the water. The mother stood 132
near without saying one word to stop him. 140
Just then the King of the Fields and Forests came by 151
and saw the boy wasting the wheat. He saw also the 162
careless mother. The King was angry and called out in 172
a voice like thunder, "Is this the way you mortals waste 183
the precious grain that is given you for food? From 193
this time on, nothing shall grow upon the wheat stalks." 203
Then the woman and all who heard him were terrified. 213
They fell upon their knees before the King and begged 223
for mercy. "O king, spare us," they cried. "If you do 234
not give us back the wheat, we shall perish from hunger." 245
When the King saw their grief, he pitied them and said, 256
"I will answer your prayer. But to punish you for your 267
wastefulness, the wheat kernels shall henceforth grow 274
only at the top of the stalk." 281
And this is why the ears of wheat are small. 291

THE PRACTICAL ORAL READING TEST.

Devised by E. D. Price.

For Grade 5.

Instructions to be Given by Announcement to Pupils of the Class:

"We are going to become better acquainted with each of you by finding how rapidly and accurately you can read orally. Each of you will come into the office and read to us for one minute. Three of you will stand just outside the door of the office, and when we call, one will enter. When you come into the office, each will give his name and age. We will then show you where to read and you may begin at once. When each has finished reading he will come straight back to this room and the teacher will send another to take his place outside the office door.

"None of you need fear to come to the office for we are good friends and will take good care of you." (The examiners now go to the office and the teacher selects the first group of three and sends them at once to their waiting place.)

Directions for Giving the Test, and Scoring.

Two persons are required in giving the tests—one to make the announcement in the class rooms, and afterwards to direct each child how to proceed when he is handed the material to be read. He also keeps the time with the watch. The second person records the name of each pupil, follows the words of the reading by means of a copy, scoring the number of mistakes, and the number of words read when the command to stop is given. He should mark each mistake as it is made—on a piece of scratch paper. After the child has read, transfer the number of mistakes to the score sheet. The mistakes are marked on scratch paper like this: m - p - l - t; m standing for miscalled words; p, for words put in; l, for words left out; and t, for transposed words. It must be remembered that if a mistake is made and the child goes back and corrects it, the mark against him for that mistake shall be erased.

For daily class room use, where the teacher desires to show the progress of the pupil by months or for any period of time, it may be more convenient to simplify the manner of scoring. Mistakes may be marked without noting the type of error. Types of error need be noted only occasionally. The score would be the same with either method.

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All the children of a grade should read the same literature for the test.

There are two tests for each grade—number one to be given early in the school year, and number two, near the close. The pupils should never be drilled on the tests, nor permitted to see them until they read for the test.

Mistakes to be counted are: (1) Words miscalled. (2) Words put in. (3) Words left out. (4) Transposed words.

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(b). Expression is not considered.

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Sample Score Sheet for Class
Score Sheet—Practical Reading Test.

CITY_____ STATE_____ SCHOOL_____ DATE_____

GRADE EXAMINED_____ TEACHER_____

Age	Pupil's Name	Miscalled words	Words put in	Words left out	Transposed words	No. words read	No. mistakes	Score
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11	Blanch Byrd	1	0	0	0	159	1	15642

SELECTIONS TO BE READ BY GRADE VI.

Test No. I.

Tobacco is harmful to the young. A dose of poison which 11
will kill a child may do but little harm to a man. Tobacco 24
is certain to hurt boys more than it does men. The poison 36
makes the body grow slower. 41
A large number of measurements made by Doctor Seaver showed 51
that the boys who did not use tobacco gained in four 62
years, one-twentieth more in weight and one-fourth more in 73
girth and height than the users of tobacco. These boys were 84
between sixteen and twenty-two years of age. It is likely that 96
tobacco will have a more harmful effect on younger boys. 106
Laws to keep the young healthy.—Boys ought to be wise and 118
brave enough to let alone what keeps their bodies from growing 129
and hurts their health, but some will not do it. For this 141
reason, some countries are trying to save the health of their 152
boys by making laws against the use of tobacco. 161
The Germans, a few years ago, passed a law in their land 173
forbidding all boys and girls under sixteen years of age to 184
use tobacco in any form. Seeing the good results of this law 196
in Germany, and the harm that tobacco was doing the boys in 208
the United States, the Emperor of Japan proclaimed this 217
law: "The smoking of tobacco by minors under the age of 228
twenty is prohibited." 231
In our own country several states have passed laws 240
against the use of cigarettes by boys. One country after 251
another is learning that if they want strong men to fight, to 262
work, and to win, tobacco must not be allowed to weaken the 274
bodies of the young. 278
How the White Man becomes a Slave.—Before the Civil 289
War, the black men of the South were slaves. They could not do 301
as they pleased because they belonged to their masters whom 311
they must obey or else they would suffer punishment. No 321
boy can begin the use of tobacco without the danger of be- 332
coming a slave to it. 337

Test No. II.

It was almost sleepy time now, and at Grandma's 9
only, sleepy time meant story time. Mary was snug in bed 20
and Grandma, at her usual post, the low, straight-backed 30
chair by the bedside. One more story must be told and then 42
the two comrades would part company for the night. 51
The sweet spring smell and the sound of the flowing 61
river came in at the open window. Nobody spoke of them, 72
but they brought a glad message that was felt, and presently 83
Grandma said: "I must tell you tonight about the little creek 94
that rippled and flowed year in and year out, and is 105
flowing to-day, just the same I haven't a doubt." 115
"That's like poetry, Grandma; surely it is." 122
"Is it? Well it's springtime, and everything and everybody 131
make poetry of some sort. I have been thinking all day about 143
the old meadow beyond the orchard. The 'greens' are ready to 154
be picked—I know right where I want to find them—and 166
the little 'blue roosters' are in the grass, too. The straw- 177
berries are in blossom—never, never was anything so good 187
as those wild strawberries." Grandma shook her head—"No 196
such things nowadays." 199
"The creek—you said the creek is there now." 208
"Yes, the creek was and is always there, summer and winter, 219
twisting and turning through the meadow. It would go 'tinkle, 229
tinkle, tinkle,' in some places, and 'gurgle, gurgle, gurgle,' 238
in others, always running along as if in a great hurry. 249
Its waters were as clear as crystal and looked like a streak 261
of light in the sunshine—all except the Deep Hole. 271

THE PRACTICAL ORAL READING TEST.

Devised by E. D. Price.

For Grade 6.

Instructions to be Given by Announcement to Pupils of the Class:

"We are going to become better acquainted with each of you by finding how rapidly and accurately you can read orally. Each of you will come into the office and read to us for one minute. Three of you will stand just outside the door of the office, and when we call, one will enter. When you come into the office, each will give his name and age. We will then show you where to read and you may begin at once. When each has finished reading he will come straight back to this room and the teacher will send another to take his place outside the office door.

"None of you need fear to come to the office for we are good friends and will take good care of you." (The examiners now go to the office and the teacher selects the first group of three and sends them at once to their waiting place.)

Directions for Giving the Test, and Scoring.

Two persons are required in giving the tests—one to make the announcement in the class rooms, and afterwards to direct each child how to proceed when he is handed the material to be read. He also keeps the time with the watch. The second person records the name of each pupil, follows the words of the reading by means of a copy, scoring the number of mistakes, and the number of words read when the command to stop is given. He should mark each mistake as it is made—on a piece of scratch paper. After the child has read, transfer the number of mistakes to the score sheet. The mistakes are marked on scratch paper like this: m - p - l - t; m standing for miscalled words; p, for words put in; l, for words left out; and t, for transposed words. It must be remembered that if a mistake is made and the child goes back and corrects it, the mark against him for that mistake shall be erased.

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All the children of a grade should read the same literature for the test.

There are two tests for each grade—number one to be given early in the school year, and number two, near the close. The pupils should never be drilled on the tests, nor permitted to see them until they read for the test.

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Sample Score Sheet for Class

Score Sheet—Practical Reading Test.

CITY_____ STATE_____ SCHOOL_____ DATE_____

GRADE EXAMINED_____ TEACHER_____

Age	Pupil's Name	Miscalled words	Words put in	Words left out	Transposed words	No. words read	No. mistakes	Score
12	Ruth Brown	9	0	0	0	169	9	15200
11	Blanch Byrd	1.	0	0	0	159	1	15642

SELECTIONS TO BE READ BY GRADE VII.

Test No. I.

THE BAT TRIBE.

1. Most of us have seen a BAT, as it flies 10
to and fro in the dusk, uttering from time to 20
time its sharp, shrill squeak. How many of 28
us know what it is, and what place it holds 38
in the arrangement of nature? 43
2. Until quite lately nobody knew at all, 50
and almost every writer on natural history 57
altered its position. Some writers placed it 64
with the birds, because it was able to fly 73
through the air; others thought that it was 81
the connecting link which united the birds 88
with the mammals, and so on. At last, however, 97
it has been discovered that the bats rank 105
far higher in the scale of creation than was 114
thought to be the case, and that they should 123
in reality be placed next to the monkey tribe. 132
3. The food of most of the bats consists 140
chiefly of various small insects, which are to 148
be found upon the wing during the hour of 157
sunset. It is evident enough, therefore, that 164
these animals must be supplied with the means 172
of chasing and capturing their prey in the air, 181
and we find accordingly that the bats are supplied 190
with wings. 192
4. These wings, however, are formed in a 199
very different manner from those of the birds, 207
for they have no feathers, and the whole 215
structure is entirely distinct. In order fully 222
to understand their formation we must inspect 229
the skeleton, in order to see how the bones 238
are adapted to the life and habits of the 247
animal. 248
5. Now, although the bones of the skeleton 255
are almost precisely the same in number and 263
position as in the monkeys, they are yet 271
greatly modified both in size and form. The 279
bones which form the palms of the hands, or 288
"metacarpals," for instance, are lengthened 293
to a surprising degree, the middle finger being 301
actually longer than the head and body together. 309
The thumb, however, is quite small, 315
and is armed with a sharp and curved claw. 324

Test No. II.

A TRAGEDY OF THE UPLANDS.

The Quail and his little brown wife were sunning themselves 10
in the great bare spot under the bushes by the 20
draw. It had been a summer full of unusual labors for the 32
happy pair. Spring had opened warm and sunny many 41
days before the ordinary time, and the little wife had not 52
been long in filling the cozy nest they built under the sumac 64
bushes with a constellation of speckled white and brown 73
eggs; and almost before the June roses nodded with their 83
soft scarlets along the edges of the ravine, a restless brood 94
of youngsters, voracious for all the insects of the field, required 105
their undivided care. 108

Then, long before the summer was well spent, this 117
brood was turned loose amid the ripening corn to shift for 128
themselves. The little brown wife made her another nest,— 137
this time under the shin-oaks on the edge of the hill; and 150
again a restless brood marched behind her across the fallow 160
grounds and into the patches of cane and kafir, pecking 170
the chinch-bugs here and there, and now and then 180
picking up a stray grain that had fallen from its ripened, 191
open husk. And now this family, too, had passed from 201
their paternal care. They could hear the weaker and more 211
timid ones even now calling whimperingly from the cane 220
patch on the hill. But this was a day when the Quail and 233
his little brown wife, forgetful of the long summer's constant 243
cares, were giving themselves over to the pleasures of 252
the autumn time and renewing their love-making, neglected 261
so long amid the hard toils of the brooding and the breeding 273
season. 274

What a blissful day it was to this faithful couple, as 285
they sunned themselves in the sand below the bushes by the 296
draw! In the early morning they had stuffed their crops 306
with fat grasshoppers too stiff to jump away, and the insects 317
lazy from the chilly night. They cheeped and twittered to 327
each other in the love-language of their ancient tribes, and 338
if ever a Quail and his little brown wife were happy and 350
content, their duties well performed and without thoughts 358
of danger to distress them, these were so that autumn afternoon. 369

THE PRACTICAL ORAL READING TEST.

Devised by E. D. Price.

For Grade 7.

Instructions to be Given by Announcement to Pupils of the Class:

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A very satisfactory way of keeping time with an ordinary watch is as follows: The instant the reader begins, place a dot with a fountain pen directly over the point of the second hand. When the point again comes under the dot, the time is up. Erase the dot before another reader begins.

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There are two tests for each grade—number one to be given early in the school year, and number two, near the close. The pupils should never be drilled on the tests, nor permitted to see them until they read for the test.

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Score Sheet—Practical Reading Test.

CITY_____ STATE_____ SCHOOL_____ DATE_____

GRADE EXAMINED_____ TEACHER_____

Age	Pupil's Name	Miscalled words	Words put in	Words left out	Transposed words	No. words read	No. mistakes	Score
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11	Blanch Byrd	1	0	0	0	159	1	15642

SELECTIONS TO BE READ BY GRADE VIII.

Test No. I.

BIRDS.

BIRDS are to us like a great many other blessings of life, 12
so familiar that we forget their worth. We regard 21
them with matter of fact eyes as we do the sunshine, the 33
green of the grass, the sheen of the sunset glow on summer 45
evenings, and all other beautiful things which we could not 55
get along without. It is only when we think about them 66
hard that we realize fully how wonderful they are, and 76
then, especially if we are sentimental, we love them so much 87
that a tightness comes up in our throats and our hearts hurt 99
because of sheer gratitude. 103

To the lumbering human creature who must needs keep 112
his feet upon the firm earth for safety, all winged things 123
typify freedom, light, air, song and happiness, and the mere 133
sight of a tiny bird sweeping into the vastness of far off 145
skies makes us thrill with a sense of gladness in its ecstasy. 157
No one views it without a bit of envy. There is such a joy 171
in its movements, such a sweetness in its song as it mounts 183
upward toward the sun, that we seem to feel its own gratitude 195
for the blessing of flight. Since the beginning of time 205
birds have been a symbol of good to man. The Garden of 217
Eden was melodious with them; a dove went from the ark 228
and brought back to Noah the olive branch; and the legend 239
says that when the cross stood upon Calvary, a little robin 250
fluttering near with sympathy for the dying Savior received 259
on its throat a drop of blood from the Heart of Jesus, and 272
so it has been a Robin Red Breast ever since. 282

There are so many different kinds of birds just as 292
there are so many different kinds of people that it is hard 304
to classify them all together, but the ones we know best 315
are the ones in our own country and therefore most dear 326
to us. They have so many attributes and habits which 336
we ought to possess but sometimes do not. They are industrious, 347
but while they work they also sing. They are faithful 357
during the mating season, and not one shirks its share 367
of work while the little ones are helpless. 375

Test No. II.

THE CALL OF THE QUAIL.

The Call of the Quail sounds from all the country-side 11
in the early autumn time. It is a call of mournful music, 23
holding hints of happy summer days, of nestlings in the 33
quiet and secluded places of field and thicket, of cautious 43
weeks of wandering with the fledgling brood and guarding 52
them from ever present danger. And now when the summer 62
time is past, when the grains are being garnered and 72
the harvests gathered into barns, the little brown birds forget 82
their shyness for a time, and become familiar with the 92
ways and homes of men. It is the soft interlude between 103
the delights of safety and the fearsomeness of danger. 112

The September Call of this friendly bird has something 121
of sweet yearning in its pleading. What it means to the 132
little visitor we cannot know; but to us it seems something 143
of a prayer to men that when the cold of winter comes 155
and the food of the covies fail, they be not slaughtered by 167
the dog and gun. For at no other season of the year does 180
the Quail so seem to court the society of mankind. On the 192
farms, the orchards, and the gardens resound at the morning 202
and evening time with this peculiar cry, and in the 212
towns and villages every vacant lot and clump of shrubbery 222
voices the same peculiar music. Then for the only time of 233
the year does Mr. Bob White appear to forget his ancient 244
shyness, and neglectful of his old-time fear approaches the 254
very feet of his ruthless enemies with a melancholy petition 264
for their mercy. 267

And this September Call is something far and away 276
different from what we hear at other times of the year. In 288
early spring the broken remnants of the winter covies surviving 298
the dog and the gun begin to make arrangements for the 308
summer's house-keeping, and the vernal air throbs and beats 318
with mating music. And then the demure little bird is 328
won, and from the fence-post during the still days of the 340
early summer time, our music-maker sends forth another 349
Call. His little wife doesn't do much in the singing line, for 361
with her nest of eggs and her voluminous brood she has 372
enough to occupy her time and talents, and she wanders 382
far afield and hides in the deepest thickets lest she be called 394
upon to receive unwelcome company. But if we should 403
happen in where she is staying, we learn in about a second 415
how busy she is and how solicitous for her helpless brood; 426
and amid cries of anguish and fluttering wings and a confusing 437
flash of all things animate, the mother and the brood 447
have vanished all at once into the mysteries of vacancy and 458
silence. 459

THE PRACTICAL ORAL READING TEST.

Devised by E. D. Price.

For Grade 8.

Instructions to be Given by Announcement to Pupils of the Class:

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A very satisfactory way of keeping time with an ordinary watch is as follows: The instant the reader begins, place a dot with a fountain pen directly over the point of the second hand. When the point again comes under the dot, the time is up. Erase the dot before another reader begins.

All the children of a grade should read the same literature for the test.

There are two tests for each grade—number one to be given early in the school year, and number two, near the close. The pupils should never be drilled on the tests, nor permitted to see them until they read for the test.

Mistakes to be counted are: (1) Words miscalled. (2) Words put in. (3) Words left out. (4) Transposed words.

(a). Repetition of words is not considered a mistake as that counts against the reader in loss of time.

(b). Expression is not considered.

(c). A mistake corrected by the child is not counted against him.

Sample Score Sheet for Class

Score Sheet—Practical Reading Test.

CITY_____ STATE_____ SCHOOL_____ DATE_____

GRADE EXAMINED_____ TEACHER_____

Age	Pupil's Name	Miscalled words	Words put in	Words left out	Transposed words	No. words read	No. mistakes	Score
12	Ruth Brown	9	0	0	0	169	9	15200
11	Blanch Byrd	1	0	0	0	159	1	15642